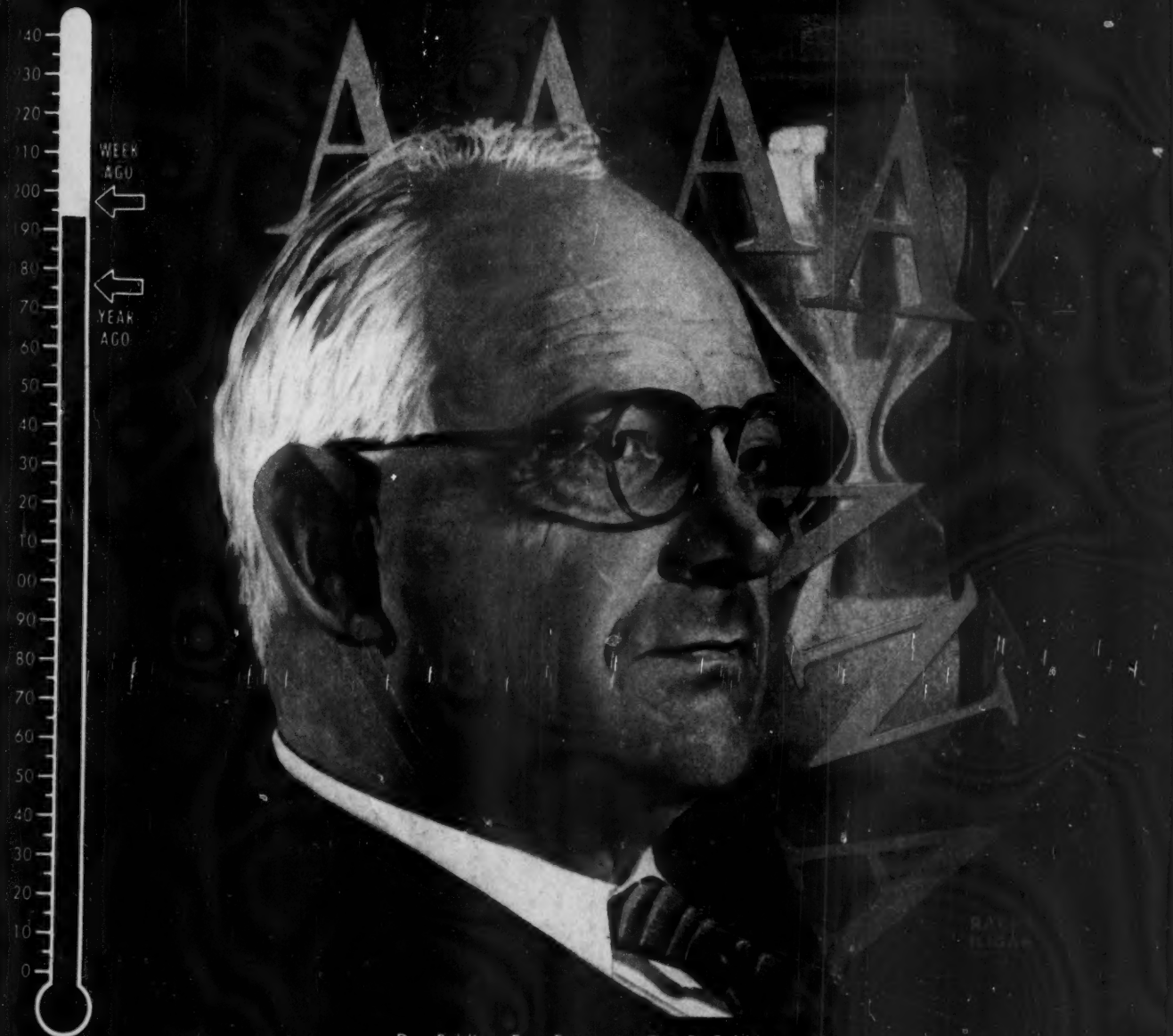
BUSINESS WEEK

JULY 17 1948



Don Belding: Free Enterprise Can Be Sold (page 6)

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★

The best way to "contain" communism is to make capitalism work

And we're not doing too well at it.

When farmers demand subsidies and price protection, they are inviting communism, which always begins by promising you something for nothing—and ends by taking your freedom.

When manufacturers charge "all the traffic will bear", they are attacking capitalism, the very essence of which is a steadily rising standard of living based on greater and greater values. (Fortunately most manufacturers realize this, and have been struggling to keep values as high as costs will let them.)

When workmen demand higher wages without agreeing to higher production, they are denying capitalism. The high standard of living which only capitalism creates is based on paying a man in accordance with his *worth*. Greater wages without greater production to pay for them bring high costs. High costs breed depression, and that's what the communists count on, to soften up this country for them.

Before we tell other peoples to resist communism, we'd better resist its siren lure of "something for nothing" ourselves.

Capitalism has given you and everyone here the standard of living that is the envy of the world because Americans in the past have been willing to *work* for what they got. They delivered *value* and then rightfully demanded they be paid for it. We'd better get back to that system quickly—the only one in history that ever worked, the only one that even pretends to include freedom.

WARNER & SWASEY
Cleveland

YOU CAN MACHINE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY TURRET LATHES, AUTOMATICS AND TAPPING MACHINES

"MORNING PAPER"!

EXTRA! EXTRA! *Read all about it!*—Here comes your newspaper rolling down the river. Of course, there'll be some changes made on the way . . .

Come see huge saws biting through wood as though it were cheese . . . high-pressure water jets blasting off bark as if by magic . . .

Come watch wood being chipped, screened, watered, cooked, rolled and dried . . . ton after ton of spongy pulp turned into hundreds of different kinds of paper and cardboard . . .

Go through processing and printing plants . . . visit bookstores, box makers, food packers, builders . . . as well as your corner newsstand!

You'll wind up at home with all the magic benefits that paper gives you!

Where's Allis-Chalmers in the picture of paper making?

It's up front—with power saws, logbarkers, screens, pumps, drives, motors—*one of America's foremost builders of pulpwood processing machinery.*

And that's just one of *many* fields we serve!

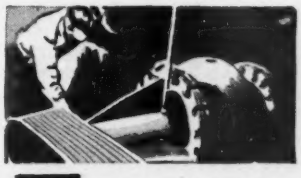
Today, top men in *every* basic industry—steel, transportation, mining, milling, electric power—rely on Allis-Chalmers craftsmanship and long-life engineering to boost production, lower costs.

It's this widespread confidence in the A-C trademark—*with more than 100 years of experience behind it*—that has made Allis-Chalmers one of the Big 3 in electric power equipment—biggest of all in range of industrial products!

Allis-Chalmers Manufacturing Co., Milwaukee 1, Wisconsin

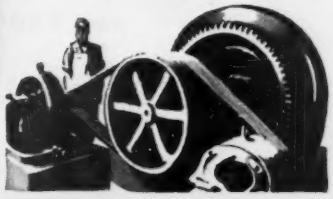
The Result of Sound Machine Engineering is Top Production, Long-Life Service!

MILL "Output rose 10% when we installed our Allis-Chalmers Type R Crusher. Performance like that means money!"



MINE "Pump repairs kept coal washing costs high until we installed A-C Solids Pumps. 9 now in operation—maintenance problem licked!"

FACTORY "17 years of trouble-free service from Texrope V-belts gave us stand-out proof of tough A-C quality."



FARM "What a work-saver! My A-C All-Crop Harvester handles all my seed and grain crops. We do the whole job without help!"

Is Your Plant as Modern as Your Product?

Step Up Productive Output with TOWMOTOR MH*

Overcome the handicap of obsolete handling methods—let Towmotor Mass Handling help you increase productive output in your plant. Versatile, gasoline-powered Towmotor Fork Lift Trucks and Towmotor Accessories provide all the benefits of modern handling techniques for every plant, large or small . . . handling raw materials and finished products of every size, shape and type . . . 24 hours a day. Turn to Towmotor for the solution to your handling problem. Follow the lead of the men who have to make handling pay a profit. More professional handlers use Towmotor than any other fork lift truck.

If your handling problems cannot be solved with a standard Towmotor unit, our engineers will analyze your procedures, design special equipment necessary to meet your specific needs. Details available without obligation.

*M H is Mass Handling, the systematic movement of the most units, in the shortest time, at the lowest cost.

Towmotor Fork Lift Truck, *Model LT-50, equipped with Towmotor Revolving Carriage Accessory for transfer movement of bulk materials.*

SEND FOR FREE BOOK! *Towmotor Fork Lift Truck and Tractor Guide—informative, helpful information about the complete line of Towmotor materials handling equipment. Send for a free copy.*

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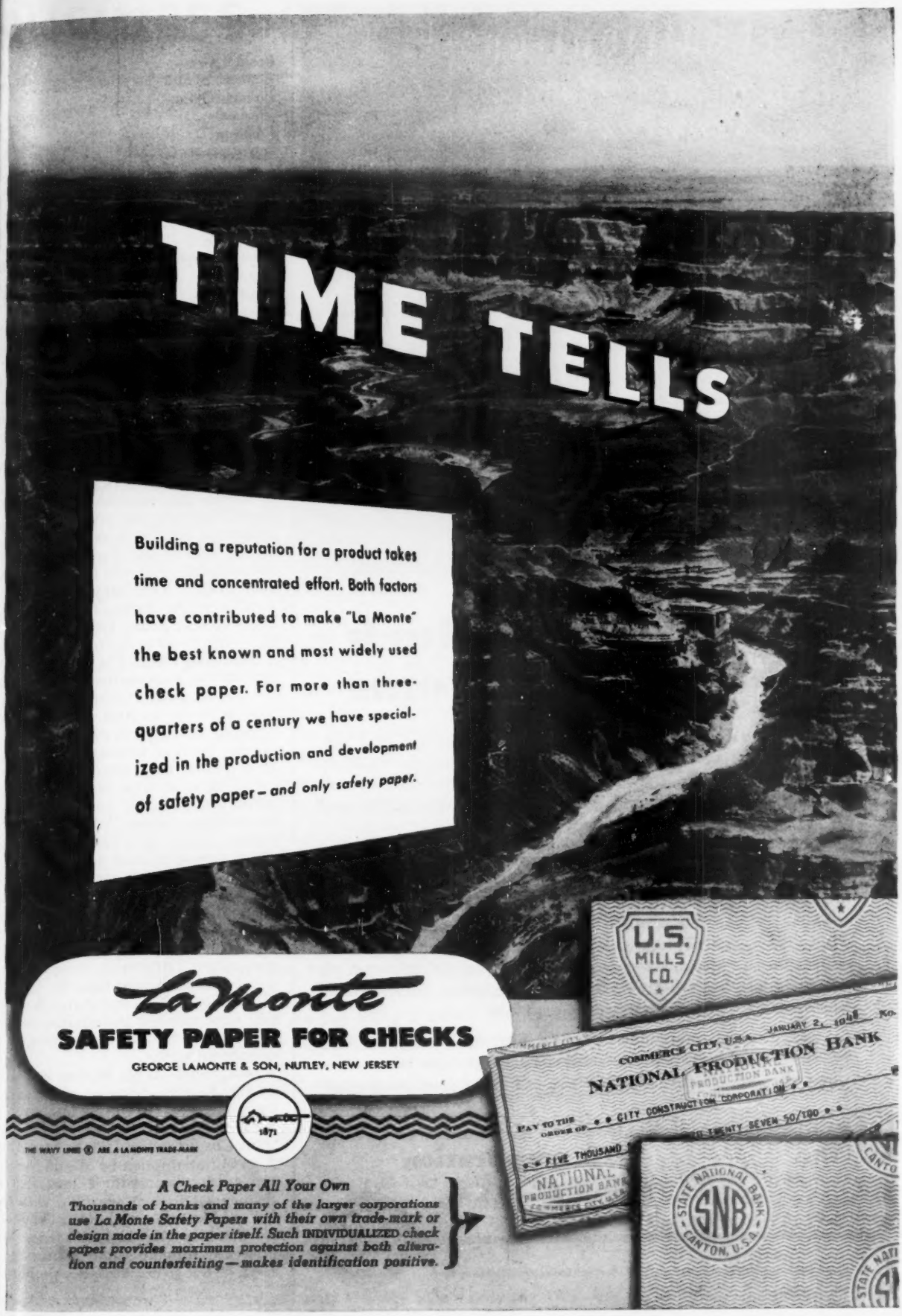
TIME TELLS
Building a reputation for a product takes time and concentrated effort. Both factors have contributed to make "La Monte" the best known and most widely used check paper. For more than three-quarters of a century we have specialized in the production and development of safety paper – and only safety paper.
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COMMERCE CITY, U.S.A. JANUARY 2, 1948
NATIONAL PRODUCTION BANK
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CITY CONSTRUCTION CORPORATION
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NATIONAL PRODUCTION BANK
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STATE NATIONAL BANK
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La Monte

SAFETY PAPER FOR CHECKS

GEORGE LAMONTE & SON, NUTLEY, NEW JERSEY

1871

THE WAVY LINE ® ARE A LA MONTE TRADE-MARK

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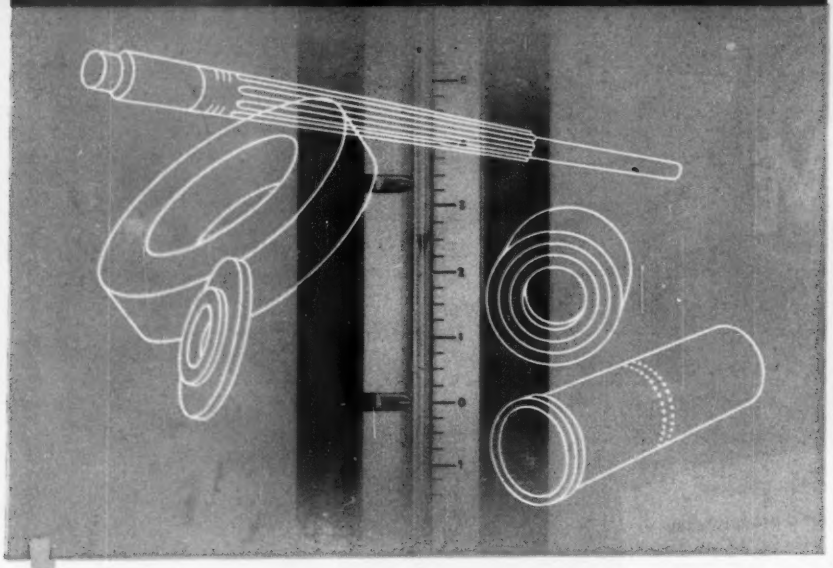
Thousands of banks and many of the larger corporations use La Monte Safety Papers with their own trade-mark or design made in the paper itself. Such INDIVIDUALIZED *check paper provides maximum protection against both alteration and counterfeiting — makes identification positive.*

Contributions
To the Heritage of American Industry



air *blows* the inch to atoms

Take a deep bore in a forging, for instance—*a highly critical bore.* The length of this bore is many times its diameter. Its axial angularity cannot vary more than a few seconds of arc. Its diameter must be true. It can't have any irregularities, bellmouth or taper if the mechanism of which it is a component is to perform successfully.

Ten years ago, there was no way to thoroughly inspect such a bore accurately except by tedious laboratory procedure.

It can be done now because Sheffield Research Engineers developed the Precisionaire, a gage which utilizes the flow of ordinary air as a measuring medium. This gage succeeded in accurately inspecting certain aircraft engine elements to tolerances as small as .000005" when all other methods had failed. Of course, the vast majority of Precisionaires are used where tolerances range downward from .010".

Such Sheffield contributions combine scientific accuracy with the speed of the production line and practically eliminate human error from precision measurement. *It is wise and thrifty to specify Sheffield.*

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Dayton 1, Ohio, U.S.A.

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Gages, Measuring Instruments, Machine Tools, Contract Services and Threading Tools.

2846

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THE COVER

Free enterprise, according to Dr. Belding, is something a lot of people talk about but few do anything constructive about.

At the end of World War II, Belding began urging American management to remedy this situation. He was convinced that here was a field where the advertising industry could show its mettle. He was sure that if advertising could sell cigarettes and oil, it ought to be able to sell something abstract, like democracy. As chairman of the advertising agency, Foote, Cone & Belding, he is well versed in the former.

• **Something Done**—The outcome of all his talk was a committee set up jointly by the Assn. of National Advertisers and the American Assn. of Advertising Agencies. Belding took over as chairman, divided his time between that and his agency work. The committee's purpose, according to its title, became the "improvement of public understanding of our economic system." Admen and advertisers, drew up a battle plan. Individual companies were urged to cooperate by stressing the advantages of the American system in their ads, public relations, and labor relations.

Last week, with the program rolling ahead "under management's splendid cooperation," steps were being taken to put it on a permanent basis. By the end of the year, A.N.A. and A.A.A.A. hope that some national organization will be found that will carry on the program's operational work.

• **Background**—At 50, Belding is looked upon as an elder statesman of the advertising industry. He got his first taste of it by selling ads for his high school annual in his native Grants Pass, Ore. After an interruption by World War I and a later bout with a long illness, Belding got a job as office boy with the Los Angeles office of Lord & Thomas. By the time that famous agency had evolved into Foote, Cone & Belding in 1942, he was an executive vice-president.

—Cover painting by Ralph Ilgen

BUSINESS OUTLOOK

More people working at the highest pay ever; that's the 1948 story of personal incomes and of aggregate purchasing power.

The new high of 61,296,000 employed in June was no surprise (BW-Dec.27'47,p9). We had to top 61-million to have full employment.

That high level is, of course, gratifying. Nevertheless, it inevitably means a tight labor market.

June unemployment: only 2.2-million. July's may be even lower.

•

Inflationary factors continue to dominate the economic scene.

High employment is a factor in this. Third-round wage increases are even more important. Greatest of all—and not fully appreciated—is that the wage boosts exceed the rise in productivity.

We are boosting income of wage and salary earners faster than we are providing goods and services on which they can spend the added money.

•

A tight labor market spurs the temptation to bid for workers—or at least for needed skills.

This is inflationary; it will become more so if war plants start recruiting hands at all actively.

Plants with government contracts don't have to hold down wage costs like those competing for civilian spending.

•

Prices are likely to be confusing in the months ahead. Basic cost-of-living items won't rise as much as cost-of-doing-business products.

Management men, thus, have their problems cut out for them. Most of the things they buy still are going up. Higher prices on coal and steel will intensify this price problem.

All this raises the cost of carrying inventories and receivables. If you have to borrow for such purposes, fixed charges will go up.

To cap the climax, money rates are dearer than a year or two ago.

•

Only thing working against inflation is the prospect of big crops.

This year's winter wheat is winning the name of the "miracle crop." Despite overwhelming odds, the second largest harvest on record is assured. Improvement from June 1 to July 1 was 75-million bu.

Spring wheat was set back a bit during the same interval. There have been fears that it might deteriorate further. However, cooler weather this week over major producing states gives the crop a reprieve at least.

But the big thing is corn. The first official crop report of the season points to the biggest yield ever—more than 3.3-million bu.

Weather this week and next will be critical for pollination in much of the Corn Belt. Here again, cooler weather is proving a blessing.

•

Major insurance for the corn crop: Three out of every four planted acres are in hybrid.

There's magic to that hybrid. Last year was the first with weather so bad that even hybrid couldn't take it. This year, so far, has been ideal.

Hybrid grows on 65-million acres this year, up from 62-million in 1947. By comparison: 143,000 acres in 1933, 14-million acres in 1943.

•

Corn next fall will be not only plentiful, but also cheap.

And that is the key to the meat supply situation. Hogs now bring close

to $30 a cwt. Corn for December delivery is selling for only a little more than $1.60 a bu.

That's some corn-hog ratio. If it lasts, farmers can clean up.

Only trouble is that hog raisers can't boost the pig population by 10% or 20% overnight.

The real increase in hog marketings won't come until 1949. With cattle, boosting numbers substantially is an even slower matter.

•

Meat prices can be brought down substantially between now and October only if consumers rebel—as butchers this week said they had.

Production of meat under federally inspected slaughter lately has been about 250-million lb. a week. That's down about 15% from earlier this year. Moreover, it won't go up much until autumn.

And even in the fourth quarter, supplies won't be too ample. Each American will get 4 lb. or 5 lb. less than the 41 lb. he ate a year ago.

A single favorable factor is that this year's spring pig crop didn't fall off so much as had been expected. Pigs saved are reported at 51.4-million, down 3% from 1947.

The number of sows farrowing was bigger than farmers had reported before breeding time. More significant, though, was loss of fewer pigs per litter.

•

Makers of glass containers may have their own little private recession. But it doesn't extend over into flat glass.

Production of polished plate glass in June set a record of 24,207,601 sq. ft., according to manufacturers' reports to the Hughes Statistical Bureau. Half-year output also was a new high, 135,688,002 sq. ft.

Meanwhile, costs of raw materials, labor, and freight have gone up. So Libbey-Owens-Ford this week hiked flat glass prices 9% to 10%.

•

Shoe manufacturers won't be throwing their hats in the air over second and third quarter results this year.

For the three months ended June 30, output probably totaled 110-million pairs. That would about match the same months in 1947—which weren't regarded as any too good.

Present indications are that the third quarter this year will also run at about the second-quarter rate. That would be off 8-million pairs from 1947.

•

Full effects of the new f.o.b. pricing for steel (pages 25 and 115) and higher freight rates will be a long while working themselves out.

Yet one thing is clear: Auto companies won't be the hardest hit in the long run.

Detroit is the steel industry's best customer, year in, year out. Steel makers will be slow to disturb old-customer relationships. They must have autos' big volume in these times of high break-even points.

They may even shade prices to keep this business on their books. Pittsburgh particularly is at a disadvantage in the Detroit market.

•

Motor car manufacturers stand a fair chance of setting a new postwar high in the third quarter of 1948. Best heretofore was the final three months of 1947 with 1,370,000 cars and trucks. Getting enough steel is the only thing standing between them and 1,400,000 for this quarter.

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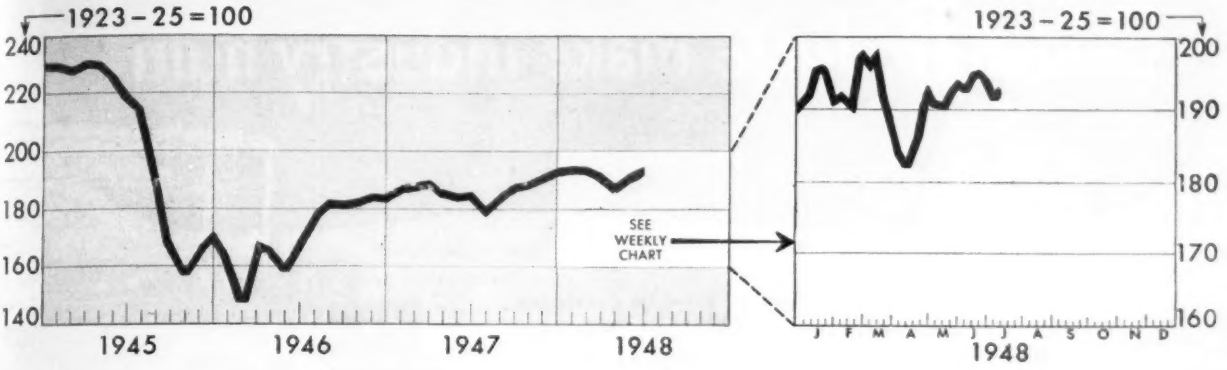
FIGURES OF THE WEEK



	§ Latest Week	Preceding Week	Month Ago	Year Ago	1941 Average
Business Week Index (above)	*193.4	†192.5	195.3	175.0	162.2
PRODUCTION					
Steel ingot operations (% of capacity)	90.8	90.3	96.0	91.5	97.3
Production of automobiles and trucks	98,362	†112,307	109,831	90,075	98,236
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$26,803	$26,816	$27,217	$18,787	$19,433
Electric power output (million kilowatt-hours)	4,760	5,166	5,132	4,531	3,130
Crude oil (daily average, 1,000 bbls.)	5,480	5,484	5,480	5,045	3,842
Bituminous coal (daily average, 1,000 tons)	578	†2,133	2,371	393	1,685
TRADE					
Miscellaneous and L.C.L. carloadings (daily average, 1,000 cars)	81	82	84	82	86
All other carloadings (daily average, 1,000 cars)	45	67	67	52	52
Money in circulation (millions)	$28,142	$27,900	$27,864	$28,363	$9,613
Department store sales (change from same week of preceding year)	+27%	+7%	−4%	+8%	+17%
Business failures (Dun & Bradstreet, number)	88	103	110	49	228
PRICES (Average for the week)					
Spot commodity index (Moody's, Dec. 31, 1931=100)	433.6	434.6	427.5	413.5	198.1
Industrial raw materials (U. S. Bureau of Labor Statistics, Aug., 1939=100)	275.3	275.0	276.2	263.0	138.5
Domestic farm products (U. S. Bureau of Labor Statistics, Aug., 1939=100)	383.4	383.9	394.6	369.5	146.6
Finished steel composite (Steel, ton)	$80.27	$80.27	$80.27	$69.82	$56.73
Scrap steel composite (Iron Age, ton)	$41.00	$40.91	$40.66	$37.75	$19.48
Copper (electrolytic, Connecticut Valley, lb.)	21.500¢	21.500¢	21.500¢	21.500¢	12.022¢
Wheat (Kansas City, bu.)	$2.22	$2.24	$2.31	$2.21	$0.99
Sugar (raw, delivered New York, lb.)	5.70¢	5.60¢	5.24¢	6.19¢	3.38¢
Cotton (middling, ten designated markets, lb.)	34.43¢	35.51¢	37.10¢	38.61¢	13.94¢
Wool tops (New York, lb.)	$1.972	$1.963	$2.011	$1.574	$1.281
Rubber (ribbed smoked sheets, New York, lb.)	23.73¢	23.12¢	22.70¢	14.69¢	22.16¢
FINANCE					
90 stocks, price index (Standard & Poor's Corp.)	133.7	133.4	134.8	126.0	78.0
Medium grade corporate bond yield (30 Baa issues, Moody's)	3.36%	3.35%	3.34%	3.18%	4.33%
High grade corporate bond yield (30 Aaa issues, Moody's)	2.80%	†2.80%	2.75%	2.55%	2.77%
Call loans renewal rate, N. Y. Stock Exchange (daily average)	1½%	1½%	1½%	1½-1½%	1.00%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	1¾%	1¾%	1¾%	1%	½-¾%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	46,247	46,420	46,996	46,525	††27,777
Total loans and investments, reporting member banks	62,606	62,638	63,426	63,227	††32,309
Commercial and agricultural loans, reporting member banks	14,403	14,342	14,152	11,791	††6,963
Securities loans, reporting member banks	1,891	1,929	1,819	2,039	††1,038
U. S. gov't and gov't guaranteed obligations held, reporting member banks	34,431	34,632	35,667	39,099	††15,999
Other securities held, reporting member banks	4,243	4,236	4,195	4,086	††4,303
Excess reserves, all member banks	950	680	920	670	5,290
Total federal reserve credit outstanding	22,243	21,900	20,955	22,035	2,265

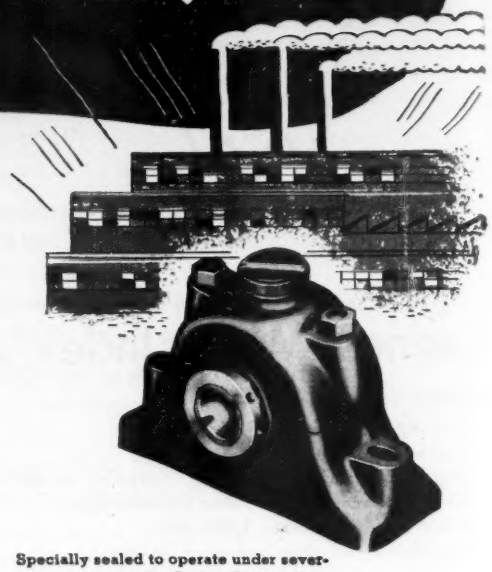
*Preliminary, week ended July 10th.

†Revised.

§Date for "Latest Week" on each series on request.

††Estimate (B.W.—Jul.12'47,p.16).

Dodge Products make industry hum!



WHAT production hazards must be overcome in *your* plant—water, acid, heat, abrasive dust? Whatever the problems, Dodge, *first in power transmission machinery,* can help you solve them. Dodge products get the power through, smoothly, efficiently, economically.

Ask a Dodge Transmissioneer—a factory trained specialist in power application—about new Dodge developments—bearings, sheaves, clutches and other drive equipment. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

DODGE MANUFACTURING CORPORATION • MISHAWAKA, IND.

Specially sealed to operate under severest conditions, the Dodge-Timken Special Duty Pillow Block is delivered fully assembled, ready to mount on the shaft and run at full speed under full load.

DODGE

of Mishawaka, Ind.

This advertisement in the June 19th issue of Business Week shows Dodge products meeting extremely difficult operating conditions.

WASHINGTON OUTLOOK

THE DEMOCRATIC TICKET isn't designed to be a victory ticket. It's a salvage ticket—to hold the Democratic Party together as a northern liberal party that the South could still be comfortable in.

Truman's acceptance of Barkley nailed down this strategy of the party wheel-horses.

The Rayburns, the Barkleys, the McGraths went to Philadelphia assuming they can't win in November. Their job, then, at the convention was to prevent the party from withering to a mere regional affair during the G.O.P. reign.

Barkley is the key to this effort. He is a tireless New Dealer, with a record that goes back to Wilson's new freedom. He is also a Kentuckian who drinks his bourbon and branch water with the southerners.

So he appeals to the northerners on principle, to the southerners on personality.

•

The aim of the Democratic campaign will be to elect the strongest possible minority in the 81st Congress.

Rather than concentrate on the states with the big electoral votes for the presidency, the Democrats will spend their meager funds on House and Senate contests—wherever they think they might pick up a seat, or save one.

They'll even make a stab at winning control of the Senate. This is the year when the statistics show the cards stacked most favorably for the Democrats. It happens every six years.

This year 14 Democratic seats are up, and only three of them can possibly be lost. But the Republicans could lose six of the 18 G.O.P. seats at stake. A shift of four senators to the Democratic section would put the Democrats in command.

That's why Democratic campaigners will bear down to beat Republicans Revercomb in West Virginia, Cooper in Kentucky, Rizley in Oklahoma, Robertson in Wyoming, Ball in Minnesota, Brooks in Illinois—and why they'll pull hard for Democrats Johnson in Colorado, Anderson in New Mexico, Murray in Montana.

They know this is a big order in a year of a Republican sweep. If they can just hold their own in the Senate and keep their losses down in the House, they'll come up in January with a compact working minority on which to rebuild.

•

Who is there to rebuild around? Like the Republicans, the Democrats have only one presidential hopeful left over from their convention. Douglas, like Stassen, will still be young enough to be in the running the next time his party picks a new candidate.

But new faces can be counted on to emerge from the minority. For example, any Democrat who can manage to become governor of a major state in the next four years could consider himself presidential timber.

•

BASING-POINT PRICING will get a going over from two different Senate committees this fall. The subject is a hot one right now (pages 25 and 116).

Sen. Capehart has $50,000 to stage big-name hearings on the impact of the Supreme Court cement decision (BW-Jun.12'48,p74).

Capehart has already decided on his first recommendation: more money next March to keep the investigation rolling through the session. His final recommendation is likely to be an amendment of the Federal Trade Commission Act and the Clayton act to limit the sweeping court decision against delivered pricing.

Capehart sees his committee as a sort of portable wailing wall for squeezed cement and steel users. He expects the f.o.b. prices to which cement and steel companies are now shifting to produce a woebegone crop of witnesses—and he'll take his committee around the country to hear them.

•

Basing-point pricing will get a less friendly study in the investigation of steel and oil distribution which Sen. Wherry's Small Business Committee plans. (It will start when the Commerce Dept. gets further along with its voluntary allocation plans.)

Wherry's approach: Use of basing points prevents consumers far from the mills from getting adequate deliveries. But he'll also be hearing price complaints from buyers newly doing business on f.o.b. basis.

•

DRAFT DEFERMENT is embroiled in a backstairs battle — Gen. Hershey's Selective Service System vs. the National Security Resources Board.

Administration—not policy—is the question. No one wants to draft young scientists and key industrial workers. The problem: How do you make local draft boards go along with top policy decisions?

Hershey wants the same kind of self-contained

draft system he had in the war. NSRB is plugging for an easily accessible appeals board of experts outside Selective Service channels.

There's more heat to the battle than is justified by the few deferments involved in today's modest draft. But the machinery being set up now may some day be manning a wartime army.

The decision rests with Truman. He has until fall to make up his mind.

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WATCH FOR WOMEN to take over a fair number of second-level administrative jobs in Washington under Dewey next year.

That's in addition to the cabinet post most people just assume will go to a woman; also, not counting the first elected woman G.O.P. Senator—Margaret Chase Smith of Maine.

Republican women are all atwitter over their Washington coming-out party.

They know they outnumber men voters. And they're banking on Dewey's propensity for giving the ladies jobs; he has named nearly a dozen to his official family in Albany.

•

A lot of Republican women have been coming up through state legislatures and administrations during the 16-year drought. Of 211 women members of state legislatures this year, three-fourths are Republicans.

Some of the names mentioned over teacups as possible bureaucrats next year:

Illinois Assistant Attorney-General Lillian E. Schlagenhauf.

Connecticut's twice-elected Secretary of State Frances Burke Redick.

California Director of Mental Hygiene Dora Shaw Heffner.

Missouri Public Service Commissioner Agnes Wilson.

Massachusetts Assistant Attorney-General Beatrice Hancock Mullaney.

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THE GOVERNMENT WON'T GO IN THE RED in fiscal '49—if the national economy keeps booming along (charts, page 23).

Truman's Budget Bureau grudgingly concedes this, after totting up what Congress authorized to be spent and taking a fresh look at the prospective tax take.

Budget rejects the claim of G.O.P. House money-czar Taber that Congress really took a whack out of government costs. It figures government spending in fiscal '49 already is sure to exceed $40-billion. That's well over the $36.3-billion of fiscal '48.

Revenue-wise, however, Budget calculates that if personal income runs around $212-billion this fiscal year (it's at just about that rate now), taxes will yield enough money to pay all the bills, leave a small surplus next July.

Of course, if inflation continues for the next 12 months at anything like the rate of the last 12, the Treasury could end up next June 30 with a $3-billion-to-$5-billion surplus.

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ARRANGEMENTS AT THE ECA BUILDING: Paul Hoffman's office is on the fifth floor. Over Hoffman is the legal department. Higher than that is the House-Senate "watchdog" committee, which has an office on the ninth floor.

Above them all, on the twelfth floor, is Reports & Statistics.

Washington bureaucrats giggle over the symbolism they see in this layering.

•

The congressional "watchdog" committee's space in Hoffman's building is just a branch office.

The committee already has other branches in Paris—and in Germany, too. Chairman Bridges expects to name five more field investigators.

To ride herd on Hoffman and Harriman, Bridges also wants three legal men, a press agent, and some clerks at home.

The Bridges committee has an open warrant from Congress to poke into everything ECA does. Bridges already is asking questions about such things as East-West trade, workings of the bilateral agreements, black marketing of Marshall Plan goods.

•

• Despite reports, the Tito-Stalin blowup has not disrupted U. S.-Yugoslav blocked-gold dickering (BW-Jul.3'48,p76). Settlement will be announced soon, with payment of $17-million for expropriated U. S. property, release of $30-million-$40-million to Tito. . . .

• Bureau of Labor Statistics chief Clague has run into unexpected resistance to his plans for revising the basis of consumer and wholesale price indexes. His new management advisory committee frowns on the idea of adding cost of home ownership and new rentals. That might push the index up.

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NUMBER 985

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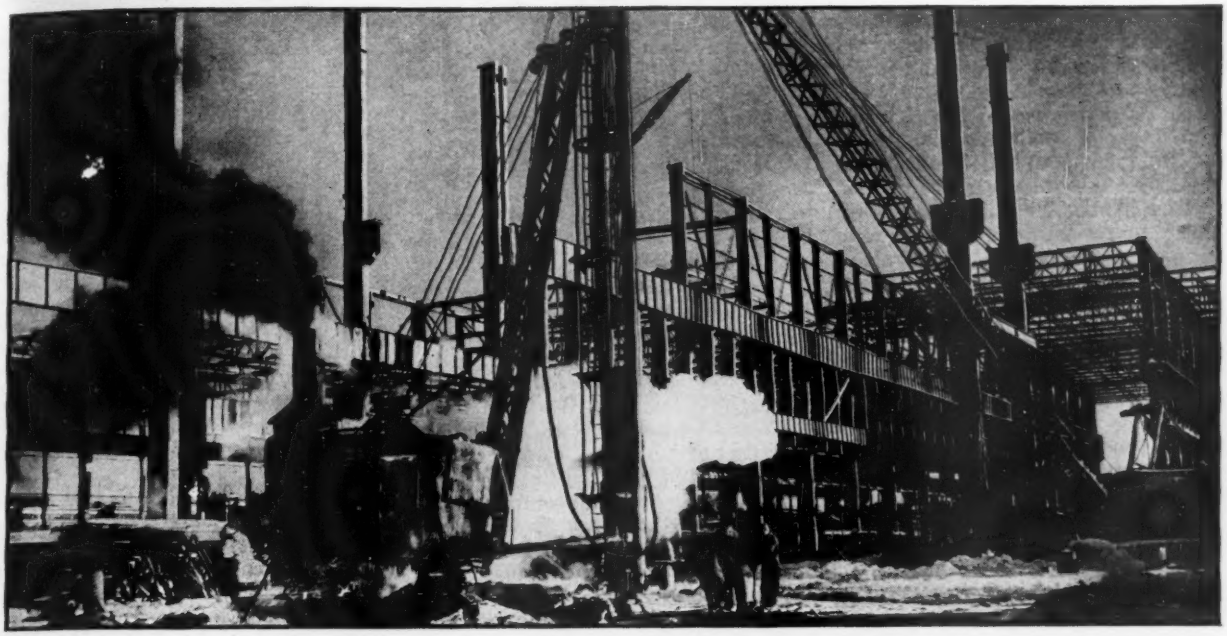


COST-PLUS JOBS like this one by Stone & Webster for General Electric have been the postwar rule, but . . .

Firm Prices Are Returning to Industrial Building

Lump-sum contracts mean less uncertainty for buyers, more money for contractors. Stabilizing construction costs permit them.

Firm-price contracts for industrial building are coming back again. Cost-plus—that nightmare of the past two years—is gradually giving ground to lump-sum or guaranteed-maximum contracts.

• **Blank Checks**—For the first couple of years after the war, almost all industrial construction had to be handled on a blank-check basis. Costs were rising too fast; wages and materials prices were too uncertain for the contractor to sign up at a fixed price.

Often the buyer wound up paying 50% or more above the original estimates. The uncertainty and the horror stories that resulted made many businessmen shelve their plans for postwar expansion.

• **Fixed Price**—Now, if a company wants to put up a medium-sized factory or warehouse, the chances are that it can get a contractor to quote a fixed price for the job. If not, it will at least be able to get a basic price with an escalator clause to cover only specific items, such as structural steel.

This isn't necessarily true in all parts of the country. And it isn't true for all types of industrial construction. But the trend toward firm prices is clear now. And it is picking up momentum.

• **Here to Stay?**—This trend shows up plainly in a survey of large contractors in various key cities, just completed by Business Week and Engineering-News-Record, a sister publication. With a few exceptions, the builders say that:

(1) They have substantially more lump-sum business on their books now than they had a year ago; and

(2) They think the swing toward firm pricing will continue through the coming year.

• **Cases in Point**—Take, for example, Walter Kidde Constructors, Inc., one of the big New York contractors. A year ago, practically all of Kidde's business was cost-plus-fixed fee. Today about a third of it is guaranteed price.

H. C. Turner, Jr., president of Turner Construction Co., New York, says that about half of his company's new contracts are on a firm-price basis. Most of them are for small or medium-sized jobs. In dollar amount they account for about 25% of the new business.

• **The Big Jobs**—Even in ordinary times the big jobs are usually handled on a fee basis. This is especially true if the contractor and the buyer have done business before and trust each other. And there are many jobs—special projects or experimental developments, for instance—that always have been handled on cost-plus and always will be.

When costs are stable, builders are likely to prefer lump-sum contracts; they can make more money on them. Any firm price contains a margin of protection for the contractor, and if all goes well that becomes part of his profit.

• **Half and Half**—Some of the big contractors, however, have always done a sizable amount of fee business. Before the war, Turner had about 50% of its work on a lump-sum basis and 50% on fee. Many buyers, says Turner, prefer the fee system. They want to be free to make changes after the work starts. And they are ready to gamble that the final price will be lower.

Another builder that has specialized in fee work is Wigton-Abbott Corp., Plainfield, N. J., which built the huge Lincoln-Mercury assembly plant at Metuchen, N. J. C. Benson Wigton, president, says the fixed-fee contract is "not only more economical for an owner than the lump-sum arrangement but vastly more equitable for all concerned."

• **Resistance**—Price resistance from customers during the last two years is one of the main reasons for the gradual return of firm prices. A Los Angeles contractor says simply: "The people we deal

with are sick of cost-plus. They want to know what they'll have to pay."

And a midwestern contractor explains more tersely: "We quote lump sum or we don't get the business."

• **Nosedive**—Early this year, new business took a dive. Contracts for industrial construction in the first quarter of 1948, as recorded by Engineering News-Record, ran about 14% behind 1947. This was partly due to the fact that contract awards were unusually high in the first three months last year. But it also reflects a slowdown in the demand.

Since March, demand has picked up briskly; for the half year, contract awards are well ahead of 1947. Contractors think volume will stay high as long as general business is good. But they believe that the most desperate postwar needs are satisfied now. From here on, they think, buyers won't take on expansion projects unless they see a profit. And to see a profit they have to have a fairly good idea of the costs.

• **Stabilization**—Competition is only half the story, though, and the lesser half at that. The fact that costs of construction are slowly stabilizing means that a contractor can see further into the future and reckon his expenses more confidently. Hence, he is taking a smaller risk when he signs his name to a fixed-price contract. (Sudden abandonment of the basing-point system of pricing in the steel and cement industries has caused a temporary uncertainty —page 25.)

A big New York builder explains it this way: "On the ordinary job, even a big contractor won't be able to do more than 30% of the work himself. The other 70% of the final cost will be materials or subcontracts. If he can't get a firm price on that 70%, he can't quote a lump sum on the job."

A Los Angeles contractor who recently switched over to a firm-price contract for new business has much the same explanation: "The principal reason for our change is that we are getting firm commitments from most of our materials suppliers.

• **Materials First**—As contractors see it, the trend toward firm prices had to start first elsewhere, and then work its way into building. A year and a half ago, the big suppliers of building materials and industrial goods began to drop the escalator clauses out of their sales contracts (BW—Jan.11'47,p15). The results are just now beginning to show up in the building business.

But building costs, on the whole, are still going up. And most contractors will refuse to sew themselves up with a flat bid on a project that will take a long time to complete. More than likely, they will want an escalator clause to cover them on some materials. Or they may want the mechanical and electrical contracts let separately. A common type of contract for the long jobs now states a lump-sum price subject to adjustment for general increases in wage rates or specified materials costs.

Steel's Labor Troubles Die

Compromise with Lewis on union-shop issue ends "captive" mine strike, and U. S. Steel's plan for "voluntary" wage raise ends threats of fight with C. I. O. Year-long rail dispute also settled.

Ten days ago, the steel industry seemed to be heading into some of its foulest labor weather in years. John L. Lewis had pulled his 40,000 soft-coal miners out of the "captive" mines. And the C.I.O. steelworkers were on a rampage because Big Steel had refused to give them a third-round wage boost (BW—May1'48,p19).

• **Change**—This week saw a complete change in the weather. The seven-day coal strike ended in a compromise with Lewis on the union-shop issue. And U.S. Steel was set to grant a "voluntary" wage raise for its steelworkers.

These two things mean that the steel industry apparently can look ahead to clear labor skies—and uninterrupted production—well into 1949.

• **Strike**—Lewis' soft-coal miners had refused to go back to the "captive" pits when their one-week vacation ended July 6. They insisted that the operators continue the union-shop clause in their 1947-48 contract without the formality of a Taft-Hartley election. The operators balked. They said they would not give a union-shop clause without an O.K. from employees through a National Labor Relations Board election. To do otherwise would be illegal.

The strike knocked out mines which normally produce about 85% of the coal used in the steel industry.

• **Union Shop Clause**—The trouble between Lewis and the "captive" mine operators started back in June, when Lewis presented his 1948-49 contract to all soft-coal operators. The contract provided that "as a condition of employment all employees shall be, or become, members of the United Mine Workers." What this meant was that Lewis wanted a union shop, despite the T-H law.

The commercial mine operators agreed to go along with Lewis on this issue—as long as it wasn't challenged in court. But U. S. Steel and other "captive" operators flatly refused to sign the contract. Their reason: The union-shop clause made it illegal under the T-H law.

• **Plea to NLRB**—It was plain that, because of the operators' refusal to sign, the miners wouldn't come back from their vacations. So the "captive" operators asked NLRB for help. Results:

(1) An NLRB complaint against U.M.W., alleging refusal to bargain (by making an illegal demand), coercion, and an attempt to force an employer to discriminate against nonunion men.

(2) An NLRB request for another federal injunction against Lewis, to require him to bargain in good faith and to order miners back into the pits. NLRB's petition for a writ was filed with U. S. District Court Judge T. Alan Goldsborough.

• **Agreement**—It didn't come to a hearing. Judge Goldsborough called mine operators and Lewis together, got them to agree to a compromise.

This compromise provides that mines will operate on a union-shop basis pending a decision by NLRB in the operators' case against Lewis. That probably means that they will operate under it until an appeal to federal courts determines whether the T-H union-shop election requirement is legal.

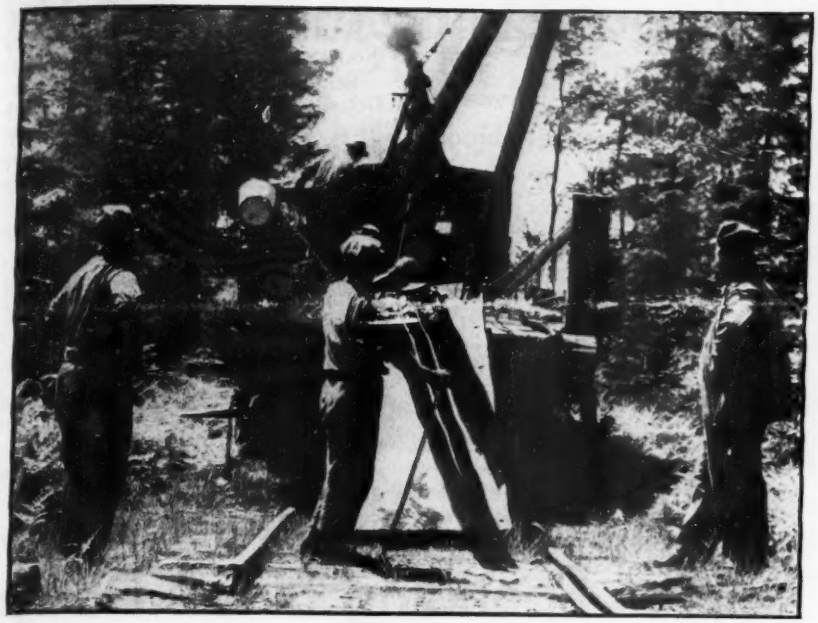
The "captive" mine operators already had agreed to give U.M.W. the $1-a-day pay boost and 20¢-a-ton coal royalty provided in commercial contracts.

• **Wages**—U. S. Steel's announcement this week that it planned a "voluntary" wage boost to its C.I.O. steelworkers was no surprise (BW—Jun.19'48,p106). Pressure against Big Steel had been growing steadily since it had told Philip Murray that it intended to hold an anti-inflation line.

The only questions in most minds were: How long will Big Steel hold out? How much will it give when it settles? At midweek, it was a good bet that the boost would fall neatly into the 11¢–13¢ range for third-round boosts.

• **The Railroads, Too**—Near-peace in the steel industry followed close upon settlement of a year-old railroad labor dispute. Brotherhoods of engineers, firemen and enginemen, and switchmen —all recently enjoined from a strike (BW—May15'48,p20)—finally accepted about the same terms agreed to earlier by other railroad unions. For the first time in recent railroad labor history, a holdout for better terms than those recommended by presidential fact-finders didn't pay off.

But railroads still face third-round wage demands from operating and non-operating unions. The 15½¢ increase given this year is a second-round wage hike. New demands, which average about 25¢ an hour, are already before the carriers.



Old Rails Bring New Money

The last of Michigan's logging railroads is pulling up its tracks and bringing its owners a neat profit on the deal. The Bay de Noquet Lumber Co. of Nahma, Mich., laid the 60-mile road half a century ago at a cost of $25 a ton for new, light rails. Now the rails are sold for scrap—at $50 a ton. Known as the Nahma & Northern (or more familiarly "Whisky Northern"), the road will be replaced by lumber trucks.

Military Demands Won't Hurt

The fiscal '49 service budget is unlikely to cramp business this year. But advance over last year's outlay and prospect of more increases may mean less civilian steel and aluminum by 1950.

Businessmen who have been fishing in heavy seas for raw materials and goods are writing off one worry this week: The collision with the military that they had been fearing probably won't be anything more than a gentle bump—this year, anyway. Nightmares about what stockpiling might do have already subsided (BW—Jun.26'48,p21). Now, after weeks of slide-rule computing, the military men have come up with a budget that will hardly make a dent on the domestic economy.

• **Bank Account**—Congress has handed the three services an "obligational authority"—or drawing account—of $14.7-billion for fiscal 1949, which began July 1. Of this amount, military bosses figure they can spend about $12-billion during the next 12 months. The other $2.7-billion will be held over to pay the bills when goods ordered this year are delivered.

Regular housekeeping items—pay, food, clothing, maintenance and operation of military camps and stations—will account for about 75% of the spending in the 12-month period.

The other 25%—and this is where the businessman sits up and takes notice—will go into hard-goods procurement: planes, ships, tanks, guns, and the like. That includes about $1-billion of aircraft for this year's delivery. (Another $2-billion for planes won't leave the Treasury for several years.)

• **Steel Demands**—Important raw materials will hardly feel the pinch of military requirements. Steel demand during the year is put at 1,250,000 short tons of carbon and alloy metal. This is about 2.1% of all U. S. production of steel-mill products. Most of the steel taken will be in carbon grades—with sheet and strip in greatest demand.

• **Aluminum**—The services will take a bigger share of the aluminum supply. But even here there's not much to furrow the brow of domestic industry. The Air Force and Navy plane programs call for about 4.5% of the total U. S. aluminum output. Half of this will be in sheet, 21% in forgings, 10% in extrusions, and 19% in all other shapes of the metal. This much aluminum will bring in 2,700 planes in the next 12 months (1,600 for the Air Force and 1,100 for the Navy).

As the long-range plane production program picks up steam, the military take will make much bigger inroads on aluminum supply. At the current rate of output, it will reach a peak of about 16% in 1951, when 5,200 planes are scheduled to be delivered.

• **Comparison**—Lined up against the money paid out in fiscal 1948, the 1949 "obligational authority" figures look pretty impressive. The congressional budget as the military breaks it down:

	—000,000 omitted—	
	1949 fiscal	1948 fiscal
Personnel support (pay, food, clothing, medical)	$5,000	$4,850
Maintenance of camps, repair of facilities	3,600	2,950
Aircraft procurement	2,900	960
Other major procurement	1,500	510
Other housekeeping costs	200	150
Research and development	500	450
Stockpiling	525	200
Planning boards, Sel. Service, etc.	40	—
Training 1-yr. enlistees	365	—
Total	$14,630	$10,070

• **Uptrend**—The 1949 figures, of course, don't represent actual spending. If 1949 expenditures should go the way of the 1948 budget, then business might have something to worry about. In fiscal 1948, expenditures ($10.7-billion) exceeded the authority by about $600-million—mainly because obligations made in earlier years came due.

But actually, the 1949 outlays can't follow this pattern. Even though there's a $480-million cash payment coming up in 1949 for earlier commitments, there'll still be a surplus of about $2.2-billion, the experts say. Reason: Plane, ship, and other armament orders contracted for this year can't be delivered in full this year; thus, they won't be paid for until fiscal '50, '51, or '52.

• **Warning Signs**—But this year's uptrend, and the prospects of higher climbs as the draft and enlistments swell the Army, are causing some worry now over the 1950 outlay. Some experts are predicting it will take a $17-billion budget just to keep up with the present trend—though there is little on paper to justify their prediction. And if Congress goes along with present plans (for 70 air groups, a 2-million-man regular force plus 161,000 one-year enlistees), the experts "guess" the budget may climb to around $20-billion by 1951.

As the military budgeteers are warning their bosses: "The pinch won't be felt this year, but watch out for 1950 and 1951."

Where Engine Money Goes

Five companies share $500-million to be spent this year on military aircraft engines; Allison and Pratt & Whitney get biggest shares. Another $500-million will go for accessories.

Engine and accessory makers will get about half of the $2-billion to be spent this fiscal year on military aircraft (BW—Jun.19'48,p26). These items will be bought directly by the government, sent to the airframe-makers to be installed.

• **Half and Half**—Last week the Air Force and the Navy announced how this $1-billion will be spent. About 50% of it will go to five engine-builders; the rest is sprinkled among a host of accessory manufacturers.

Big winners of engine orders were the Pratt & Whitney Division of United Aircraft Corp., at East Hartford, Conn., and the Allison Division of General Motors Corp., at Indianapolis.

Allison's high rank shows plainly the progress of jet engines. (The G.M. subsidiary makes only jets today; Pratt & Whitney still makes mostly piston engines.) In this program, for the first time, 68% of the total will be jet engines.

• **Who Got Engine Orders**—Here is how the engine orders are split among five companies:

Allison: 1,978 J-33 turbojets and 1,875 J-35 turbojets. This amounts to about 65% of the total jet-engine production. Current output of 200 jet engines a month will be stepped up steadily to a peak of 500 a month at the end of 1951.

Pratt & Whitney: 2,760 Wasp Majors (3,500 hp.); 253 Double Wasps (2,400 hp.); 634 Nene turbojets (under license from British Rolls Royce, Ltd.); and 97 helicopter engines.

General Electric Co.: 1,250 J-47 turbojets. This is the most powerful U. S. jet engine in production. The present order is only the beginning of a stepped-up J-47 program that is expected to reach a peak in 1952. G. E. will use its present plant at Lynn, Mass.; it will also lease a major part of the former Wright plant at Lockland, Ohio (near Cincinnati).

Curtiss-Wright Corp., Wood-Ridge, N. J.: 782 2,500-hp. R-3350 reciprocating engines and 665 700-hp. R-1300 reciprocating engines.

Westinghouse Electric Corp., South Philadelphia: 1,278 J-34 turbojets.

• **Jets Expensive**—A major problem that's bothering both the Air Force and the Navy: how to reduce the cost of jet engines—now as high as $80,000 apiece on some models? The special heat-resistant, high-strength alloys needed for turbine blades are the biggest cost factor. Blades now cost from $6 to $24 each—and the average jet engine has 135 blades. The Air Force has set a target of 50¢ apiece for blades. (But don't hold your breath till they make it.)

Still on the engine horizon are (1) the turboprop, or propjet—a turbojet in which the turbine is geared to drive a propeller, and (2) the compound engine—in simple terms, a combination jet-piston engine. The new engines should be ready for production by the end of next year. Both of them promise to help solve the current problem of increasing the distance that jet aircraft can fly.

• **Who Got Accessory Orders**—Among the accessory makers who got orders:

Bendix Aviation Corp., with plants in Detroit, Baltimore, Los Angeles, South Bend, Ind., and Teterboro, N. J.: Hydraulic systems, autopilots, brakes, generators, radios, and fuel-metering systems and instruments.

Thompson Products, Inc., Cleveland: Sodium-cooled valves; turbine blades.

Pesco Products Division of Borg-Warner Corp., Cleveland: Fuel pumps and oil separators.

Lear, Inc., Grand Rapids, Mich.: Actuators and radios.

Kollsman Instrument Division of Square D Co., New York City: Flight instruments.

Sperry Corp., New York City: Flight and engine instruments and control equipment.

Capital Spending Slows Down

New estimates of business expansion in 1948 show that the sharp postwar rise has flattened out. And current plans are less than those reported by businessmen earlier this year.

This week you could see the first signs of a break in the long-continued capital-expansion boom—but you had to look with a mighty sharp eye. The signs are in a report from the Commerce Dept. and the Securities & Exchange Commission on business expenditures for plant and equipment in the first, second, and third quarters of 1948.

• **The Figures**—Here are the latest figures—actual for the first quarter, planned for the second and third quarters (in millions of dollars):

	First Quarter	*Second Quarter*	*Third Quarter*
Manufacturing	$1,800	$2,010	$1,850
Mining	180	180	180
Railroads	270	350	380
Other transport	180	210	170
Electric & Gas	500	610	650
Commercial & misc.	1,240	1,330	1,340
Total	4,170	4,690	4,570

• **One Interpretation**—You can read the figures optimistically—in conjunction with previous reports (BW—Apr.17'48, p28). They show that plant and equipment spending in the first quarter of 1948 was 32% ahead of the same quarter in 1947; scheduled spending in the second and third quarters is 19% and 10%, respectively, ahead of the corresponding quarters of last year.

• **The Other Interpretation**—But, looked at in another way, the figures show a flattening out, an end to the steep rise which has been interrupted only once since 1943. Perhaps this is the beginning of a turndown in capital expansion; perhaps it means that business expenditures are bumping against the capacity of the capital goods producers; perhaps it's a statistical vagary.

One other pessimistic note comes from a look at the history of this statistical series. Two and a half years ago, Commerce and SEC began investigating business intentions on capital spending. Sample firms were asked what they had spent in the previous quarter, what they intended to spend in future quarters. Then the survey was repeated each three months. For any quarter-year the agencies publish a first estimate of spending, a second estimate, and the actual figure.

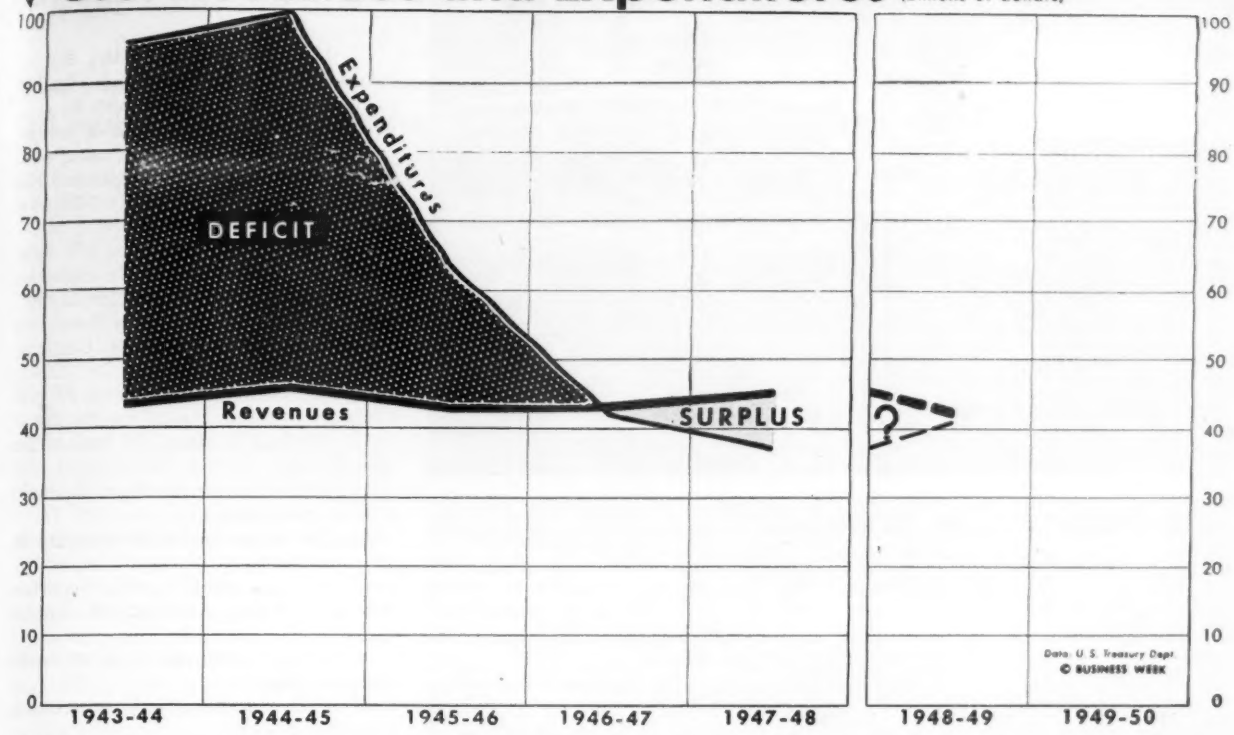
In the past, every time the investigators went back for another look they found that businessmen had upped their ideas on spending.

• **Turnabout**—This week, for the first time, the new figures are lower than the original intentions. Take the first quarter of 1948, for instance: Expectation last fall was for total spending of $4.1-billion. Early this year, businessmen increased their estimate to $4.5-billion. Actual spending, it now turns out, amounted to only $4.2-billion.

Similarly, the latest estimate for the second quarter is down to $4.7-billion; the earlier estimate was $4.8-billion.

• **Railroads Up**—Continuing the trend of previous reports, this week's figures show that expansion of the manufacturing industries, though still the largest component, is declining in relative importance. Commercial expansion is holding its own. Utility and railway expansion are becoming increasingly important; only the railroads have increased their spending intentions as compared with first-quarter estimates.

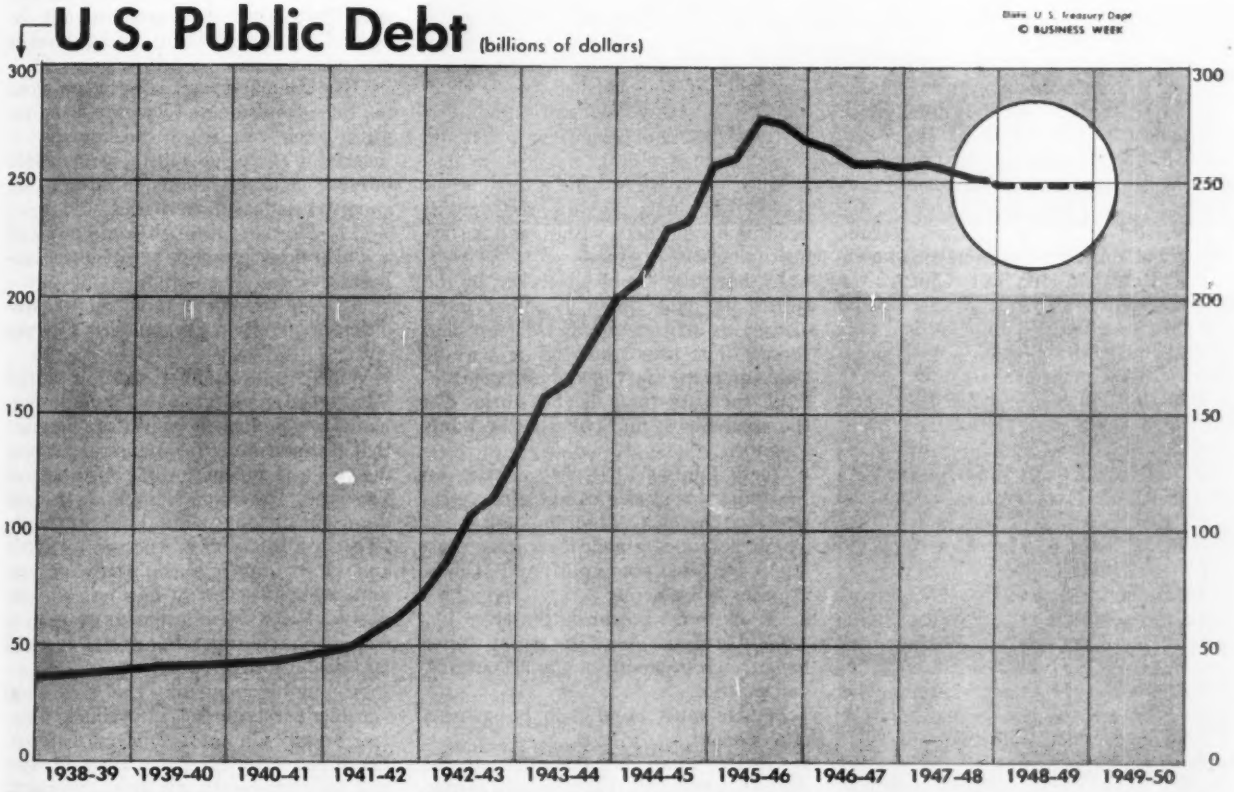
U.S. Revenues and Expenditures (billions of dollars)



1 Record peacetime federal revenues and smaller outgo brought the biggest surplus ever in the fiscal year ended June 30, but . . .

2 Prospects for fiscal 1949 aren't nearly so clear . . .

U.S. Public Debt (billions of dollars)



3 So the big postwar reduction in the public debt promises to taper off—or even to end—in 1949

Jeep Becomes Tax-Advice Office

At Kansas City, accountant S. C. Edmister has fitted a Jeep station wagon out as a mobile office and uses it for his "Drive In-Come Tax Service." The unit is complete with folding desk, file cabinet, chairs for interviewees. Edmister visits small firms weekly, brings their books up to date on the spot. The system is so successful with one Jeep station wagon that Edmister has four more on order.

What Makes a Good Executive?

Chicago consultant says the best type is a man who has cut emotional ties with his parents. To bring out character traits in applicants; psychologists have worked out tests based on pictures.

How can you tell whether a man you hire as a junior executive at $10,000 a year won't turn out to be a dud? Most companies, unhappily, don't know until he has been paid for several months—and maybe turned his department topsy-turvy.

This sort of loss to industry, according to Dr. Burleigh Gardner, director of Social Research, Inc., of Chicago (a consulting service), is all wrong. With the aid of modern psychology, the wheat can be sorted from the chaff immediately without great expense.

• **Testing**—The basis for Dr. Gardner's feeling is work done with a relatively new device called "thematic apperception test." This was developed by H. A. Murray of Harvard University; it was further adapted to personnel selection by Dr. William E. Henry of the University of Chicago.

Here's how the test works:

In the presence of a psychologist, a subject is handed, one by one, a series of pictures. The subject is asked to describe what he sees in each picture. The replies he gives, when evaluated by a psychologist, lay his mind bare.

• **Pictures**—For example, suppose you show a prospective executive a picture of a young man standing next to an old lady. The young man is holding his hat and looking somewhat downcast. The old lady is staring out a window. The successful aspirant usually says that the young man is telling his mother he's leaving home to seek his fortune. A second rater may say that the man is heeding his mother's wishes, and is staying home.

In short, the bright job-seeker, by the stories he tells, shows a skilled interviewer his attitude is toward work and success. The tests are based on a whole series of pictures. And only after evaluating the sum total of the stories can the psychologist find out what he wants to know.

• **Good Traits**—What, in general, are the traits that make a successful executive? Last week Gardner put out a list which describes a good executive thus:

(1) He must accomplish and achieve in order to be happy.

(2) He must accept authority.

(3) He must have a strong drive toward achievement, material rewards, and prestige.

(4) He must be able to bring order out of chaos.

(5) He must be decisive—but he doesn't necessarily have to make snap decisions.

(6) He must be sure of his convictions and decisions.

(7) He has a constant drive to be moving and doing.

(8) He may have a pervasive fear of failure—a lingering doubt of his ability to do as good a job as he wants to.

(9) He has a strong sense of reality.

(10) He identifies himself more with his superiors than with subordinates. His superiors represent a symbol of his own achievement.

(11) He feels and acts on his own. "In a sense," says Gardner, "a successful executive is a man who has left home."

• **Bad Marks**—On the other hand, an unsuccessful executive, says Gardner, has these traits:

(1) He can't grasp the over-all picture, can't see the forest for the trees.

(2) He fails to carry his load of responsibilities.

(3) He has an unconscious desire to be something else.

(4) He has an unconscious desire to be someone else.

(5) He is so ambitious that he is impatient with and intolerant of routine tasks.

(6) He is unable to cooperate with his associates.

(7) He cannot accept supervision from his bosses.

(8) He is arrogant with his subordinates.

(9) He may have a deep-rooted, fixed idea that hobbles him in dealing with his duties. He may, for example, suspect that some colleague is out to "knife" him, or that his background is not up to snuff.

(10) He may keep his nose too close to the grindstone. Overemphasis on work often results in breakdowns. A successful executive must have outside interests and relaxations to sustain his energy, balance his activities.

(11) He may, through some quirk of a youthful background, be subconsciously bent on self-destruction.

(12) He may have some mental disorders that only a psychologist can pry out.

• **Wide Applications**—Gardner's Social Research, Inc., is one of a growing number of psychological consultant services that test personnel for industry. According to Dr. Lawrence Abt, consultant of Personnel Institute, New York, a firm doing much the same kind of work: "Tests of this sort are becoming more and more useful in the study of employees of all levels in business and industry. What's applicable to executives is applicable to supervisors, foremen, and rank-and-file personnel."

Among big companies that have used Gardner's tests are Sears, Roebuck; General Foods; Glenn L. Martin; International Harvester; Sangamo Electric. The cost for a six-month service ranges up to $15,000.

Steel Price Maze Unwinding

But there are still plenty of uncertainties, even after U. S. Steel's announcement of its new mill quotations. F. o. b. prices will mean an increase, on the average.

Steel buyers began to get a better line on their material costs this week, as U. S. Steel Corp. posted its new f.o.b. mill prices. But there's still a lot of uncertainty for three principal reasons:

(1) Big Steel did not quote delivered prices reflecting the full transportation charge (though it said it would on request); so buyers still have to figure freight on top of mill prices.

(2) Other leading companies which announced the switch in pricing from the basing-point system had not disclosed by midweek their new mill prices.

(3) Still other companies have not yet said whether they'll change their pricing system in line with Big Steel.

• **Wage Factor**—The guessing game was complicated further by the fact that Big Steel was expected to raise prices as an offset to its third-round wage increases (page 20). Talk in the trade generally is that the price boost may be as high as $10 a ton.

• **U. S. Steel's Details**—But the switch to an f.o.b. basis alone will raise steel prices, on the average.

Here's how it works out for Carnegie-Illinois and other Big Steel subsidiaries, which announced mill prices effective July 13:

The new mill list prices are the same as the old basing-point prices; but the mills and the former basing points are not always identical, so actual prices are different (because of freight). For example, forging ingots, which used to be quoted from Pittsburgh and other basing points at $46 per net ton, are now quoted at the same figure from all C.-I. mills. F.o.b. mill prices are subject to the current list of extras and deductions and standard conditions of sales.

All other Big Steel subsidiaries—National Tube Co., Tennessee Coal, Iron & Railroad Co., American Steel & Wire Co., Geneva Steel Co., and Columbia Steel Co.—announced their new mill prices and made them effective simultaneously with Carnegie-Illinois, the chief U. S. Steel subsidiary.

The cost of steel to customers varies because of the wide difference in freight charges. In cases where the customer is at or near a mill city, the delivered cost of steel will not rise. But customers who are closer to the old basing points than the actual mill shipping points will have their steel costs raised because of added freight.

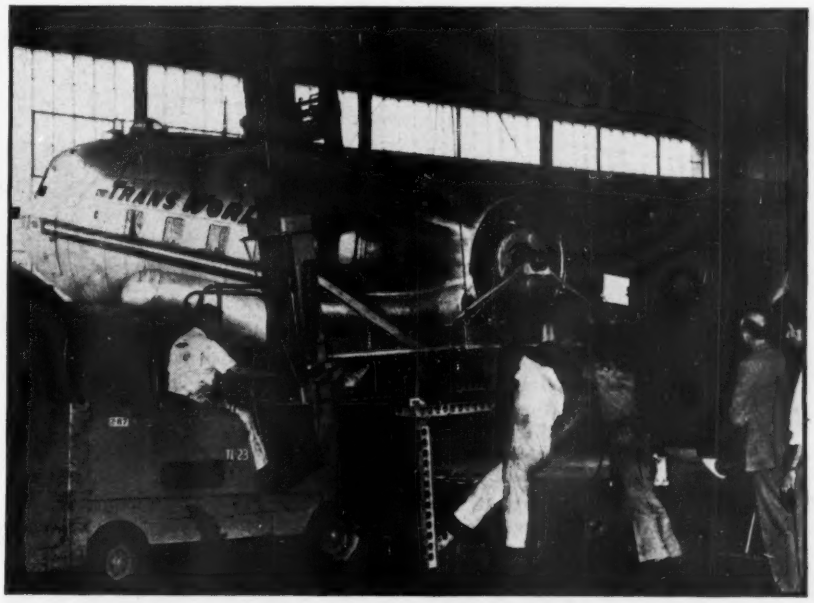
C.-I., for example, will no longer absorb the $4.60 freight charges per ton on its shipments from Gary, Ind., to Detroit. This will cause a buyer of cold-rolled sheets in Detroit to pay $77.80 a ton instead of the previous Detroit delivered price of $73.20 a ton.

Mill prices of Big Steel's American Steel & Wire Co. are unchanged from the old basing-point quotations. But the differentials have been increased for products made at Worcester, Mass. For example, carbon wire rods formerly quoted at $58 a ton from Worcester will be priced at $62 a ton. Price differentials which had been maintained at Duluth, Minn., have now been eliminated; high carbon spring wire formerly quoted at $95 a ton is now priced at $90 a ton.

San Francisco and Los Angeles customers won't gain or lose very much by new prices quoted by U. S. Steel's Columbia Steel Co. This is because there were no basing points at the Pittsburg and Torrance (Calif.) mills, but there were at San Francisco and Los Angeles. The new price quotations take that into account.

• **Warehouse Effects**—U. S. Steel Supply Co. this week joined the f.o.b. pricing parade on steel sold from its 11 warehouses scattered over the nation.

For steel users buying at the warehouses, the new prices represent no change from those formerly in effect;



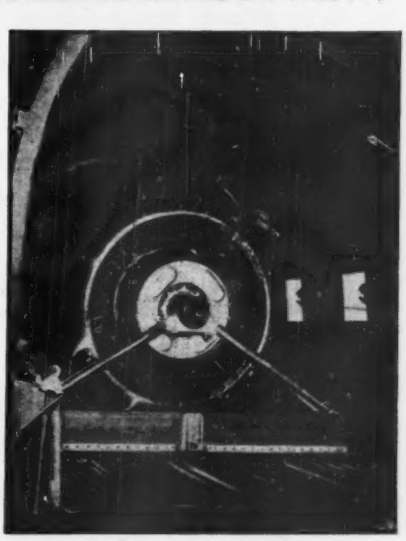
SPARE ENGINE for TWA Constellation is loaded into Converted C-47 where . . .

Converted Transport Speeds Engine Changes

Trans World Airline has solved a major airline problem: how to have spare engines for its Constellations on hand where and when they're needed—without carrying heavy inventories of the $45,000 power units. Its solution was to convert a C-47 cargo plane to carry the 4,000-lb. power plants (engine, cowling, and accessories).

The special transport will work out of TWA's Kansas City maintenance headquarters, flying one power unit at a time to outlying stations on short notice.

Pacific Airmotive Corp. did the conversion job on the C-47 at its Kansas City branch plant. The modified plane can also carry two DC-3 engines.



. . . CRADLE is secured for flight

where freight or cartage is involved, however, the customer will pay it. Previously U. S. Steel Supply quoted delivered prices where competitive conditions made this necessary.

U. S. Steel's warehouse prices under the new setup represent mill prices for the steel, plus carload freight to the warehouse, plus a warehousing profit.

• **Industrial Effects**—Meantime, some industries seemed ready to move nearer steel supply points.

Kelsey-Hayes Wheel Co., for instance, disclosed it is studying several sites for a new plant close to steel supply. Baltimore is one city considered—because of its nearness to Kelsey-Hayes customers and the Sparrows Point (Md.) plant of Bethlehem Steel Co. Perry Williams, executive vice-president, said Kelsey-Hayes will find it advantageous to locate nearer the mills now that steel companies have adopted new pricing methods. He pointed out that an eastern plant would place Kelsey-Hayes nearer the Ford and General Electric assembly plants in the East.

• **Government Reaction**—Government lawyers who won the anti-basing-point victory in the Supreme Court are now trying to interpret steel's abandonment of basing-point pricing.

Attorneys at the Federal Trade Commission are vague as to the legal purity of various pricing situations under the f.o.b. system. They are cagey about giving out even guarded opinions based on hypothetical situations. However, they attempted to give informal answers to the following specific questions:

(1) May U. S. Steel at Pittsburgh meet the price of a Detroit steel producer when it comes to selling in the Detroit market? Answer: Sure, as long as there is no collusion involved and no systematic matching of prices. There is no reason why U. S. Steel shouldn't try to get business in Detroit by meeting Great Lakes Steel's prices. But if done on a systematic basis to such an extent that it appears that U. S. Steel is discriminating against its nearby customers in favor of distant customers, then the question of price discrimination is raised.

(2) May a producer quote f.o.b. warehouse instead of f.o.b. mill? Answer: Nothing on the books now says a producer can't quote f.o.b. his local warehouse—even though his point of production may be distant. (FTC attorneys claim, though, that establishing a warehouse in a city where none was before would be more uneconomic than shipping direct to the customer.)

(3) If every mill becomes a base mill, isn't the whole squabble all over? Answer: No; there's still a question of identical prices or of the absence of price competition. That's what FTC wants to eliminate, no matter what the cause is.

Breakdown of Liquid Asset Holdings

Amounts of Liquid Assets Held	Proportions of Spending Units That Held These Amounts 1948	1947	1946
None	27%	24%	24%
$1-$199	15	14	15
$200-$499	13	12	14
$500-$999	12	14	14
$1,000-$1,999	12	14	14
$2,000-$2,999	6	7	7
$3,000-$4,999	6	7	6
$5,000-$9,999	5	5	4
$10,000 and over	4	3	2
All units	100	100	100
Median holdings of all units	$350	$470	$400
Median holdings of those with assets	$820	$890	$750

Consumer Reserves High

Federal Reserve Board survey shows that purchasing power built up during war is higher than ever. But there are some warning signals, such as slowdown of rate of increase of assets.

Marketing experts sharpened their pencils and set to work on a brand new batch of statistics on consumer finances—released this week end by the Federal Reserve Board. By and large, they show that consumers still have plenty of liquid reserves to back up their demand for goods.

• **Cover Assets**—The new figures cover holdings of liquid and nonliquid assets by the nation's 48.4-million spending units. (FRB defines a spending unit as a group of people living in the same household and pooling their incomes to meet major expenses.)

This is the third installment of the Federal Reserve Board's 1948 Survey of Consumer Finances. Two previous reports in this series have covered consumer buying plans for 1948 (BW—Jun.5'48,p23) and the distribution of consumer incomes (BW—Jun.19'48, p21). The figures on asset holdings round out the picture by giving a measure of the amount of purchasing power consumers have in the kitty to supplement their incomes.

• **Bigger Than Ever**—The figures show that the kitty—fattened during the war—is now bigger than ever.

But here and there the effects of rising prices and the heavy buying of the past two years are beginning to show up. These are warning signals that will bear watching in the future.

• **The Plus Side**—On the plus side, experts note these points:

(1) Holdings of liquid assets continued to grow during 1947. The bank accounts and government bonds held by individuals total about $130-billion.

(2) These assets are still widely distributed through the various income groups. Nearly three-quarters of all spending units still have something in the kitty.

(3) Although fewer spending units hold government bonds, more have bank accounts.

(4) Consumers have a lot of secondary reserves of nonliquid resources. Some 78% of all spending units have life insurance, and 39% own homes. About 9% have an interest in unincorporated business; 9% hold stocks or bonds other than governments.

• **The Minus Side**—On the minus side, these points stand out:

(1) The rate of increase in liquid assets dropped off sharply during 1947. Last year, consumers added $5-billion to this reserve, vs. $7-billion in 1946.

(2) The number of spending units holding liquid assets stayed about the same (35-million) during 1947 instead of rising in proportion to the increase in the total number of spending units. Hence, the number holding liquid assets showed a small drop as a percentage of the total.

(3) About one-third of all spending units saw their liquid assets drop during 1947. Only one-fourth reported increases.

(4) The proportion of assets held by the upper-income groups showed a tendency to increase somewhat over previous years.

• **Qualification**—As you study the survey, there's one important qualification

Quality Precision Motor Controls

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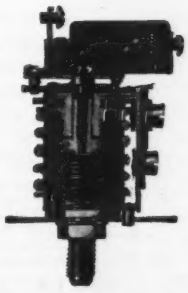

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Ordinary motors refuse to be overworked. If a job is too tough, they quit and your machinery stands idle until a new motor is installed. Your only alternative to frequent motor failure used to be the installation of larger motors even though it might involve costly redesigning of the machine or the whole installation.

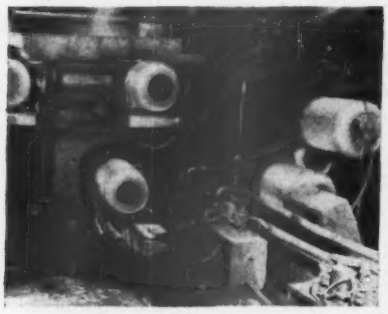

PHOTO COURTESY CARNEGIE-ILLINOIS STEEL CORPORATION

Silicone insulated motors still in service after 14 months of exposure to water, steam, high ambients and heavy overloads in steel mill strip coilers.

Now, there is an easier and far less expensive alternative. You can give your motors much greater overload capacity by having them rewound with Silicone Insulation. Here's an example from the Gary, Indiana plant of Carnegie-Illinois Steel Corporation. Coilers, driven by 7 motors, take red-hot steel strip from an 80 inch mill and roll it into coils while the strip is cooled with water.

These motors are exposed to water, steam, high ambient temperatures and overloads. After several failures, the bottom-most motors, which carry more than their share of the 12,000 pound load, were rewound with Dow Corning Silicone Insulation. Average life of Class B motors in those spots was 2 months. The silicone insulated motors were still in service after 14 months.

You can give motors about 10 times the life and 10 times the wet insulation resistance of Class B motors by having them rewound with Silicone Insulation according to the specifications given in data sheet No. G19-5.

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to keep in mind: The special definition of liquid assets includes only checking accounts, savings accounts, and government bonds. It does not count cash, because most people will not admit to a strange interviewer that they have currency in the house. As a result, the survey does not cover the $20-billion or so of currency now held by individuals.

Since "teapot banking" is most popular in the lower groups, this omission probably gives the survey a tendency to understate the resources of lower-bracket consumers. This is one reason why the experts are not particularly worried by the small but noticeable increase in the proportion of spending units that report no liquid assets at all (table, page 26).

• **Danger Signal**—A more impressive danger signal is the marked decline in the median holdings of liquid assets. The median is the midpoint in a ranking. It has half the units above it, half below it. Hence, a decline in the median indicates a general downward shift.

Early in 1947, the median holdings of liquid assets for all units were $470. By the beginning of this year, the median was down to $350. Excluding units that held no assets, the median was $890 in 1947, and $820 in 1948.

• **Top-Income Share**—The figures also show a small increase in the share of liquid assets held by the top-income groups. The highest 10% of the spending units, ranked according to incomes, held 43% of the liquid assets early in 1948. In 1947, their share was 39%.

No tendency toward concentration shows up in the rest of the income scale, however. The upper half of all spending units, ranked according to incomes, held 77% of the liquid assets at the beginning of 1948. That's precisely what they had the year before. And the lowest tenth boosted its share from 3% in 1947 to 5% in 1948.

• **Where It Went**—Almost half of the money that consumers drew from their liquid-asset reserves in 1947 went into houses or other investments.

About one-fifth was used to buy automobiles and other durables. And one-third went for nondurables.

• **Veterans' Spending**—A breakdown on how veterans spent the money they got from terminal-leave bonds gives an interesting slant on the way consumers react to windfall additions to their purchasing power. Terminal-leave bonds became cashable in September, 1947.

By early 1948, three-fifths of the veterans had turned theirs in. Of this group, 32% reported that they bought nondurable consumer goods with the money; 26% bought consumer durables; 13% took care of emergencies and sickness; 10% paid back bills.

• **Likert Survey**—All these findings are based on a field survey by Dr. Rensis Likert's Survey Research Center at the University of Michigan.

Who's Private?

ICC has new test to distinguish between for-hire and private truckers: What is the owner's primary business?

If you're a businessman operating trucks and charging for it, you have a stake in whether you come under Interstate Commerce Commission rules. They involve a lot of red tape that may be costly.

• **Distinction**—Recently, ICC drew the line between for-hire carriers, who must comply with ICC rules, and private truck operators who don't need to. It ruled the "prime use" of the trucks determined whether they were for-hire or private vehicles. That was in the Lenoir case (BW—Jun.26'48,p26).

Then, in a case involving Schenley Distillers Corp., ICC broadened that decision: It now says the test is whether the truck owner is primarily engaged in transportation. If he is, he is a for-hire carrier subject to ICC regulation. If not, he is automatically a private trucker, even if he does some trucking for others.

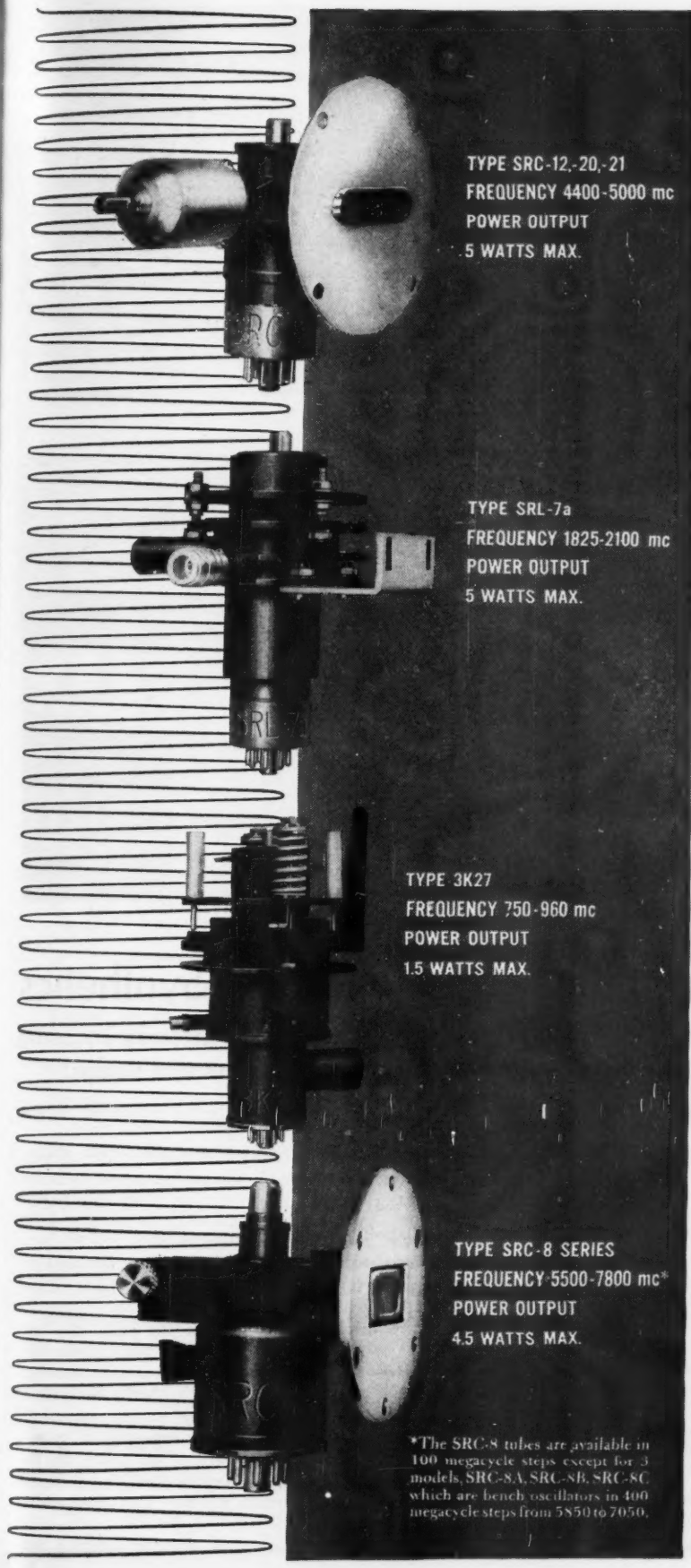
But last week a group of eastern railroads threw the whole problem in the fire again. The roads got ICC to postpone its order in the Lenoir case so they could give ICC their reasons why the case should be reviewed. Railroads—and trucklines—don't like the Lenoir or Schenley decisions because private truckers, free of rate rules and other regulations, offer competition.

• **Schenley's Case**—Schenley's trucks carry the products of Schenley subsidiaries, as well as those of the parent company, to customers. Schenley charges such customers a delivered price.

For-hire truckers asserted that the delivery charge made Schenley a for-hire carrier, too. But ICC decided that the purpose of Schenley's charge is to provide uniform delivered prices to customers, no matter what form of transportation they use. Any profit Schenley may make is "incidental."

• **Riss Case**—For-hire trucklines were better pleased with another recent ICC decision. Riss & Co., Inc., of Kansas City, runs few trucks itself, has most of its hauling done by other truckers over its lines in about 22 states. These truckers, called "providers," in turn hand over business originating on their routes to Riss. Most of these "providers" have no operating authority from ICC.

ICC says that it will revoke Riss' license as a common carrier, unless Riss rearranges its system. ICC wants Riss to take direct and complete control of freight on its lines. ICC says that at present the responsibility is actually divided between Riss and its providers.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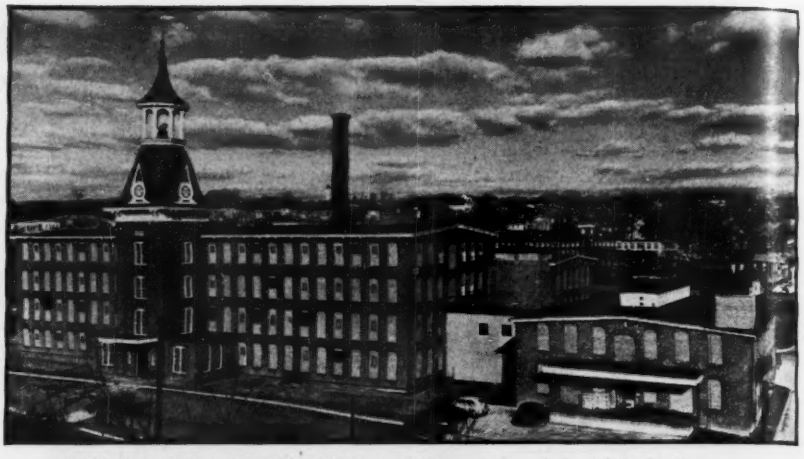


100-YEAR-OLD COTTON MILL in Baltimore has Colonial look, but . . .

ON THE INSIDE, the most modern machinery hums in air-conditioned luxury as . . .

Cotton Industry Moves Into Synthetics

Mt. Vernon-Woodberry is the latest to diversify by using other materials – as hedge against style changes and slumps.

Take a close look at the top picture of Mt. Vernon-Woodberry Mills, Inc.'s Meadow Mill. You will see that the windows—200 of them in all—have been bricked up. Why? Because this Baltimore mill is beginning to turn out synthetic materials for a company which for years has been making cotton goods. To be able to do it, the plant must be sealed against outside temperature and climate changes and must be specially air-conditioned.

• **9,000 New Spindles**—Since 1940, Mt. Vernon-Woodberry's Meadow Mill has been used only as a warehouse. Now 9,000 new spindles have been installed, giving the plant a weekly capacity of 50,000 yds. By the end of the year, the company will have 25,000 more new spindles in its two other Baltimore mills. This changeover to synthetics will boost its present number of employees in the city (550) by 40%.

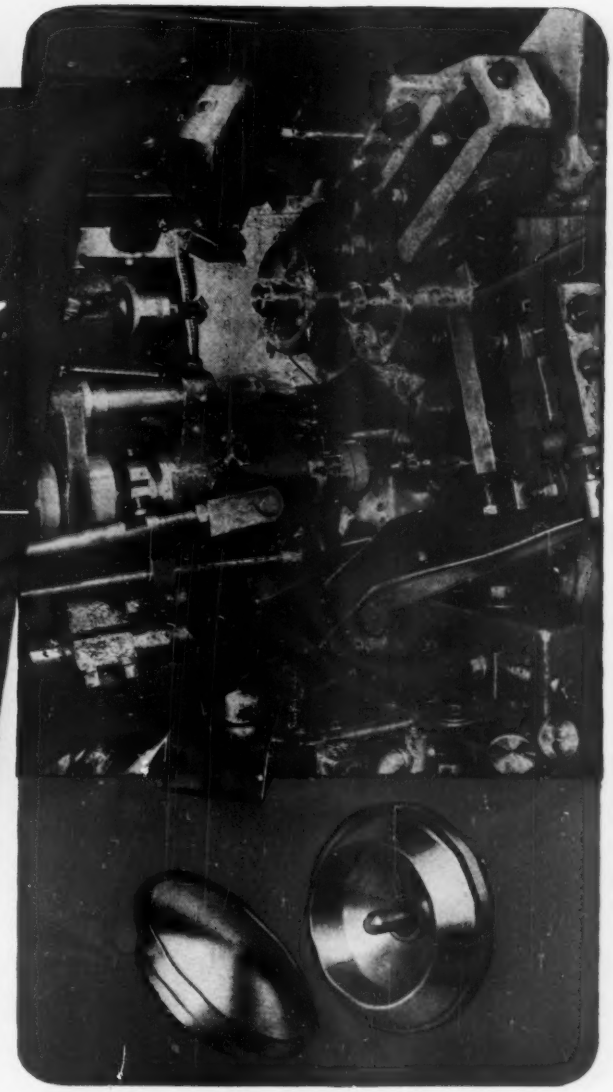
By entering the manufacture of synthetic goods, the cotton textile industry is making a protective move in a highly competitive narrow-profit-margin field. Mt. Vernon-Woodberry is not the first company—nor will it be the last—in cotton manufacture to do it. Here is the basis of the move:

• **Diversification**—In the past, the cotton industry has been particularly vulnerable to a slump in markets, changes in styles, etc. That's chiefly because it has had all its eggs in one basket—it could manufacture only cotton goods. By switching part of its plant to the manufacture of synthetics, the industry has a hedge against this happening again.

The reason is that by adding syn-

HOW TO *Sew up* YOUR MARKET

by increasing precision production with ACME-GRIDLEY Automatics



In a buyer's market, distribution is the all-important key to profit—yet increased distribution usually requires *increased production.*

That's where Acme-Gridley automatics can help.

Take this case: a sewing machine manufacturer, aggressively going after increased distribution; one of the bottlenecks in his production schedule is shuttles—a small precision part, requiring a total of 52 operations. The first 20 of these operations are done on Acme-Gridley bar automatics. Shuttle blanks are dropping into the pan at the rate of one every 23 seconds. High production? Yes! Precision? Of course—that's inherent in the Acme-Gridley design.

Wide open tooling zones assure plenty of room for chip clearance—and for the use of timesaving, moneysaving, power-driven auxiliaries that often eliminate secondary operations. Heavy, rigid construction and positive, close-coupled camming provide the necessary strength for top speeds and feeds—at no sacrifice in accuracy. Set-up times are economically short. *You'll get more good pieces in the pan per day with the new Acme-Gridley Bar and Chucking Automatics.*

JOB FACTS: Part—shuttle blank; Material—SAE 1112 bar stock; Machine—Acme-Gridley 2″ RB—6 spindle bar automatic; Operations—20, including pick-off and shaving back radius; Tolerance—.002″ between stem and inside wall; Total Time per Piece—23 seconds.

Want to sew up your market with increased production—the Acme-Gridley way? We'll be glad to quote on your requirements. Just drop us a **line.**

ACME-GRIDLEY BAR and CHUCKING AUTOMATICS built in 4, 6 and 8 spindle styles, maintain accuracy at the highest spindle speeds and fastest feeds modern cutting tools can withstand.

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thetics, mills can make materials of cotton mixed with rayon, or shift quickly and cheaply to mixtures of rayon and wool, rayon and nylon, and other combinations. This will keep the industry abreast of style changes and the development of new products.

The idea is catching on fairly fast. The federal government says that of the 21-million cotton spindles now in active operation in this country, 500,000 have already been changed to make synthetics in combination with other materials instead of just cotton alone.

• **Duck and Sailcloth**—Cotton mills first sprang up in Baltimore around 1800. Many years later, mill building spurted there. As a result, Baltimore captured about two-thirds of the cotton duck manufacturing trade held by Paterson (N. J.) mills—which had dominated the business. Much of the production went into sailcloth for merchant ships before the age of steam.

In 1899, the Mt. Vernon-Woodberry Cotton Duck Co. was established in a consolidation of several eastern cotton duck mills. But by 1915, the company had foundered on lean years; it was reorganized under its present name—Mt. Vernon-Woodbury Mills, Inc.

• **Prosperity**—Except for a few years in the depression, the company has flourished since. Its sales in 1942 were $34-million. It slipped back somewhat just after the war: $29-million in sales in 1945, $33-million in 1946. But last year was its biggest in history: Mt. Vernon-Woodberry's sales hit more than $44-million. The company netted over $4-million after taxes.

Thomas M. Bancroft, president of the company, laid this new surge to the fact that 1947 was the first full year that the industry was unhampered by government controls. This let the industry adjust what it considered to be price inequalities resulting from OPA rules, and let it go back to making the products best fitted to the equipment of each mill.

This year looks good, too, for Mt. Vernon-Woodberry. Demand for its products, both at home and abroad, is standing up well.

• **The War's Part**—The war was largely responsible for the company's interest in synthetics. The bulk of its production, of course, was cotton goods—almost all for military needs. (More than 80-million lb. of its products went to direct or indirect war use in 1942 alone.) But it was also called upon to make specialties out of synthetics. These included nylon cloth for footwear and flak jackets; seine twine for camouflage nets; and rayon cord for tires.

Its wartime success with these products led Mt. Vernon-Woodberry to experiment further for the postwar period. These tests included the use of rayon and nylon in combination with wool and cotton, and some research in a

VESSEL DIVISION

NEWS

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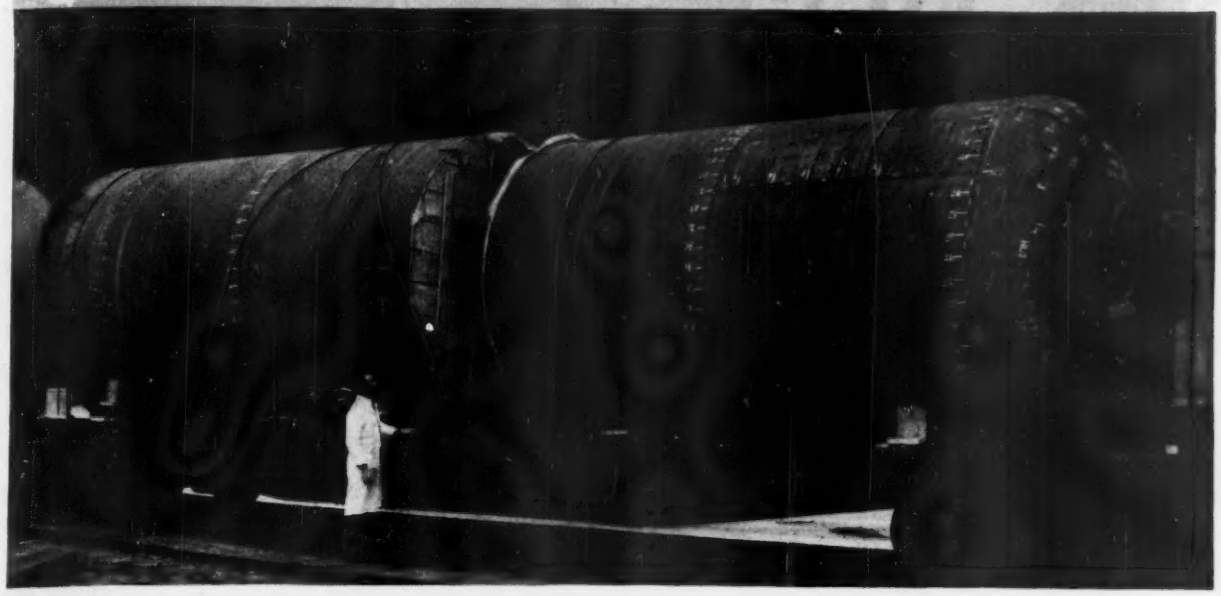
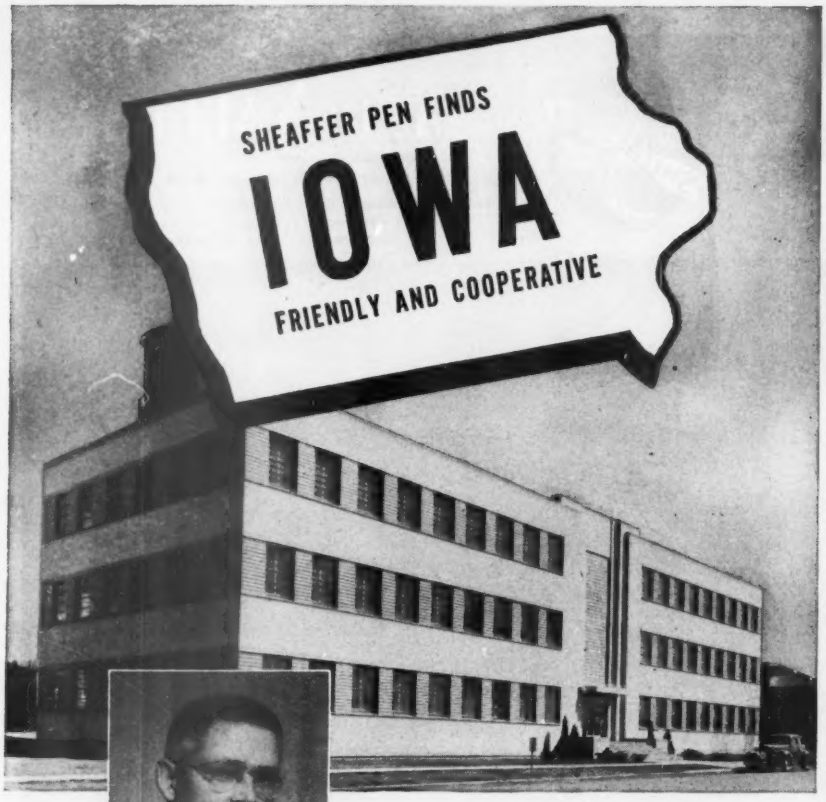


SLICED IN HALF. Remember the man who built a boat in his basement and then had to tear down a wall to get it out? Well, in this case A. O. Smith fabricated a 43 ft. long lined digester in halves and saved tearing down a wall to install it in an existing paper mill building.

TURN-ABOUT STRESS-ANNEALING. Even the longest of A. O. Smith's huge furnaces could not stress anneal all of this oil industry vessel at the same time; so one half was heated and cooled then the vessel was turned around and the other half stress annealed.

RECORDING 200,000 PSI TENSILE TEST. Through constant research in the field of high strength alloy steel weld metal, A.O.Smith is producing an alloy steel electrode whose weld metal strength is over 200,000 psi when heat treated.



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IOWA DEVELOPMENT COMMISSION

new field—fireproof glass-fiber draperies.

• **Cotton First**—But cotton is still the company's main product. Mt. Vernon-Woodberry has its biggest cotton mills in the South. Its plant at Tallassee, Ala., for example, has 86,000 spindles, employs 3,000 workers. The one at Columbia, S. C., has 28,000 spindles and employs 1,500.

The Columbia mill was the first in the U. S. to be adapted completely to electricity for power—in 1893. Some of that early equipment, long since replaced, now rests in museums. Oddly enough, the Baltimore units—today the company's first to move into the manufacture of synthetics—were among its last to change from steam to electric power. They made the change in 1917.

Keeping a Market

To protect their top spot in U.S. sales, Hawaiian pineapple growers invest in Cuba and other areas that raise pineapples.

Not so long ago, Hawaii produced 98% of the pineapples and pineapple juice sold in the U. S. Now that figure is down to 80%. The reason is simple: Island land shortages limit annual output to 18.5-million cases; but U. S. demand is still growing. So Cuba, Mexico, Puerto Rico, and the Philippines have been making up the difference. Their price is lower than Hawaii's, too, because labor costs are high on Hawaii's unionized plantations.

But Hawaiian pineapple growers want to keep their control of the rich U. S. market. So they have been investing capital in the competing areas.

• **Investments**—Last week one of the islands' smaller producers, Hawaiian Fruit Packers, announced (1) that it has taken an option to buy control in a "modest" Cuban pineapple cannery and freezing plant, and (2) that it was "looking into" Philippine possibilities.

The giant of the pineapple industry, Hawaiian Pineapple Co. (Dole), is already in Cuba, operating experimental plots in five different areas (BW—Apr. 24'48,p103).

Hawaii's No. 2 producer, California Packing Corp. (Del Monte), has set up a $2-million plant on Mindanao, Philippines. Reports say the output there may reach 6-million cases annually.

The No. 3 producer, Libby, McNeill & Libby, has just started a Mexican operation in the Loma Bonita section.

• **Stability**—Concentration of pineapple control in Hawaii has given the industry a remarkable stability and enabled it to maintain regular operations, maintain price, and avoid distress selling. Hawaii would like to keep it that way.

AN OLD HAND at trade association work, D. D. Stewart gives . . .

Trade Bureau Aid

Seattle organization expands to meet task of handling executive and secretary work for regional business groups.

Many a small trade association faces a tough problem in arithmetic: how to get a top-caliber staff when there's hardly enough money to set up a part-time secretary. To that one, D. D. Stewart of Seattle has an answer—his Organization Service Bureau.

The bureau makes a business of handling executive and secretarial work for local and regional trade associations. It now serves 20 organizations in the Pacific Northwest. It has just expanded its offices to take on the heaviest load in its 12-year lifetime.

• **Experience**—Stewart is an old hand at the organization and trade association business. He was in it for nearly 20 years before he set up his own bureau. He developed and was first secretary of the Seattle Retail Trade Bureau. He lived with trade associations during their tremendous expansion in the middle thirties under NRA. When the National Industrial Recovery Act was knocked out, countless associations contracted fast, or folded. That was Stewart's chance. He created Organization Service Bureau to provide economical central-office service.

Today the bureau handles labor relations, legislative work, public relations, convention management, and information bulletins. It takes care of the housekeeping routine of any organization—dues, payments, meetings, records.

• **Clients**—The North Coast Retail Hardware Assn., with 350 members scat-

"Another riddle out of Egypt"
How would an Egyptian production man of the year 2560 B.C. handle your bookbinding volume? Would he still triple-split the long triangular stems of the papyrus plant . . . mat and soak them in water from the Nile . . . press and dry them in the sun to form sheets . . . then paste them together to form crackly scrolls? Would he still insist upon preserving a slow, ancient-day, production tradition?
The answer isn't easy.
For even in our time, nearly four years after National successfully introduced FLEX-BACK for gluing-off to more than two hundred bookbinders, many production men still insist upon using animal glue that takes 3 to 4 hours to dry. We wonder why? FLEX-BACK is the first cold, liquid resinous glue ever to permit bookbinders to glue-off and then round and back in 10 to 20 minutes. It retains all of the advantages of flexible glues and eliminates all of the disadvantages . . . as it shatters another ancient-day tradition of slow production.
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tered from the Arctic Circle to the California border, is the largest group on its list. Others are organizations of retailers, wholesalers, and manufacturers, handling everything from tires, rubber stamps, stationery, resilient flooring to ice and carbonated drinks.

The bureau serves as a depository for funds of all its clients. It issues its own checks to pay association bills. That saves separate bank accounts and books. Stewart gives a fidelity bond to each association; his books are audited, and a statement is submitted to clients as often as they want. The monthly fee varies with the service.

AEC Will Sell Industry Radioactive Compounds

The Atomic Energy Commission has gone into the business of supplying radioactive chemical compounds and drugs for commercial use. AEC also established a procedure for drug and chemical firms to use to synthesize and sell radio-tagged compounds.

For about two years AEC has been selling radio-isotopes to accredited industrial experimenters. Trouble was, these have been in element or compound forms not immediately suitable for use by industry in "tagging" compounds under study. Researchers have had to make the radioactive compounds themselves from elements furnished by AEC—or else get some independent laboratory to do it for them. In recent weeks it has also been possible to buy ready-compounded material from Tracerlab, Inc. (BW—May22'48,p52), and now AEC is circularizing other firms on how to set up similar arrangements.

• **Stop-Gap Business**—This week AEC announced that approved experimenters will be able to select from AEC's own list of ethyl alcohol, acetylene, sugar, and other radioactive carbon compounds. Later AEC will offer other materials besides carbon compounds.

This is a temporary business venture for AEC. The commission has committed itself to quit production of a compound any time a private firm is prepared to furnish it. So that it won't retard commercial entry into the field, AEC intends to sell the compounds at prices that will yield a profit.

• **Regulations**—An experimenter who needs radioactive compounds submits an application to AEC, stating how much he needs over the next six months and what he wants them for. If AEC approves, it will authorize him to purchase the compounds from Tracerlab or anyone else in a position to furnish them—or, now, from AEC itself. He must agree to publish his research results, but there are no restrictions on his patent rights to any discovery.

CAMERA VISITS INDUSTRY

1 It's a 47-mile haul by this puffing company railroad to get ore down from Golden Cycle's mines in once-bustling Cripple Creek gold field to refinery at Colorado Springs

Gold Refinery Moving to Mine

To save money, Golden Cycle Corp. decides to transfer its Colorado Springs refinery up nearer mountain mines.

For 42 years, the gold-mining enterprise, Golden Cycle Corp., has been a landmark of Colorado Springs. Recently, with ore less rich, and costs bumping against the government ceiling price of $35 an ounce for gold, the company has been making less and less money. Last year it netted $8,000—against $725,000 in 1938.

This state of affairs has prompted company officials to decide that it would be cheaper to abandon its railroad, and move refining operations, described on these pages, up nearer the mines.

After the move, the sprawling old mill will itself be "mined." Every bit of the structure that might retain a fleck of gold will be put through the refining process. Recovery may run to $100,000.

2 Half a mile under the surface, air drillers bore holes in dull gray, gold-bearing rock. After rock is blasted loose, it's hoisted to surface (TURN TO PAGE 40)

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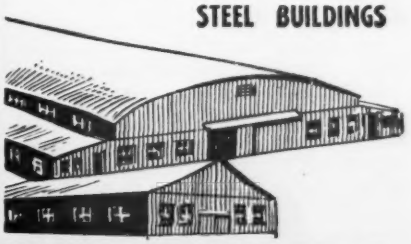

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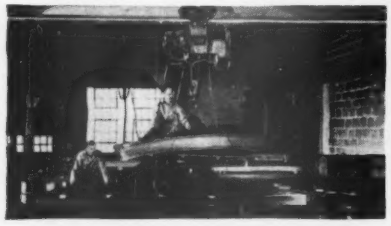

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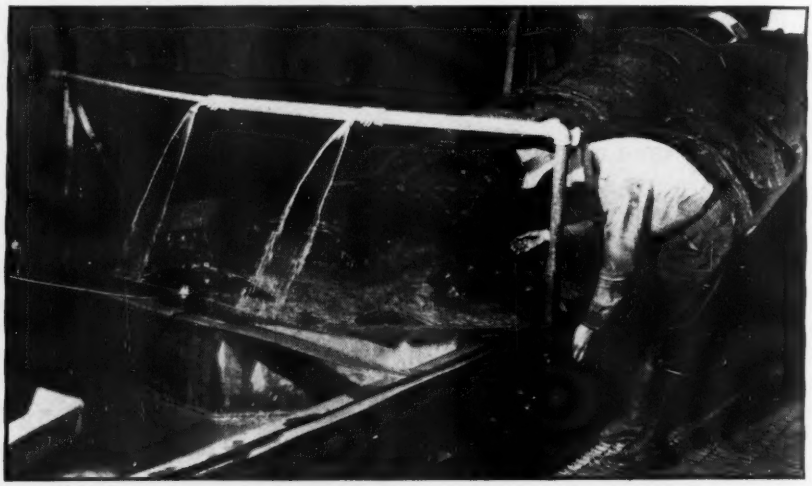
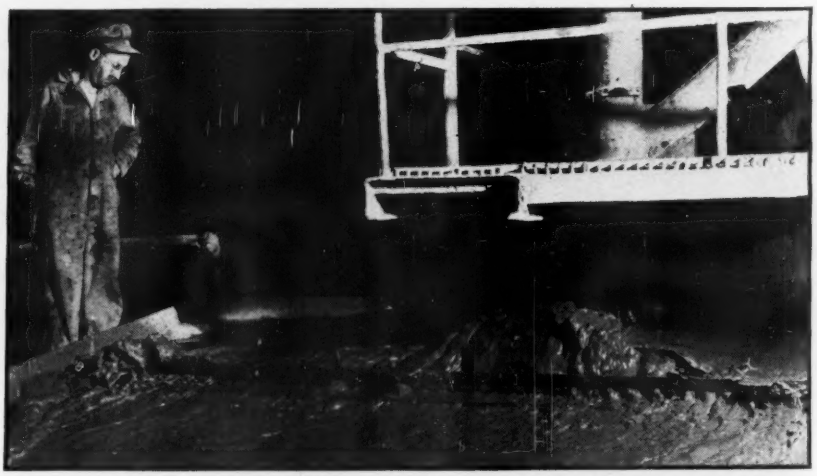
3 At refinery, after sampling for richness, ore is ground up, then roasted in open-flame ovens. It emerges from ovens looking like these fine black cinders

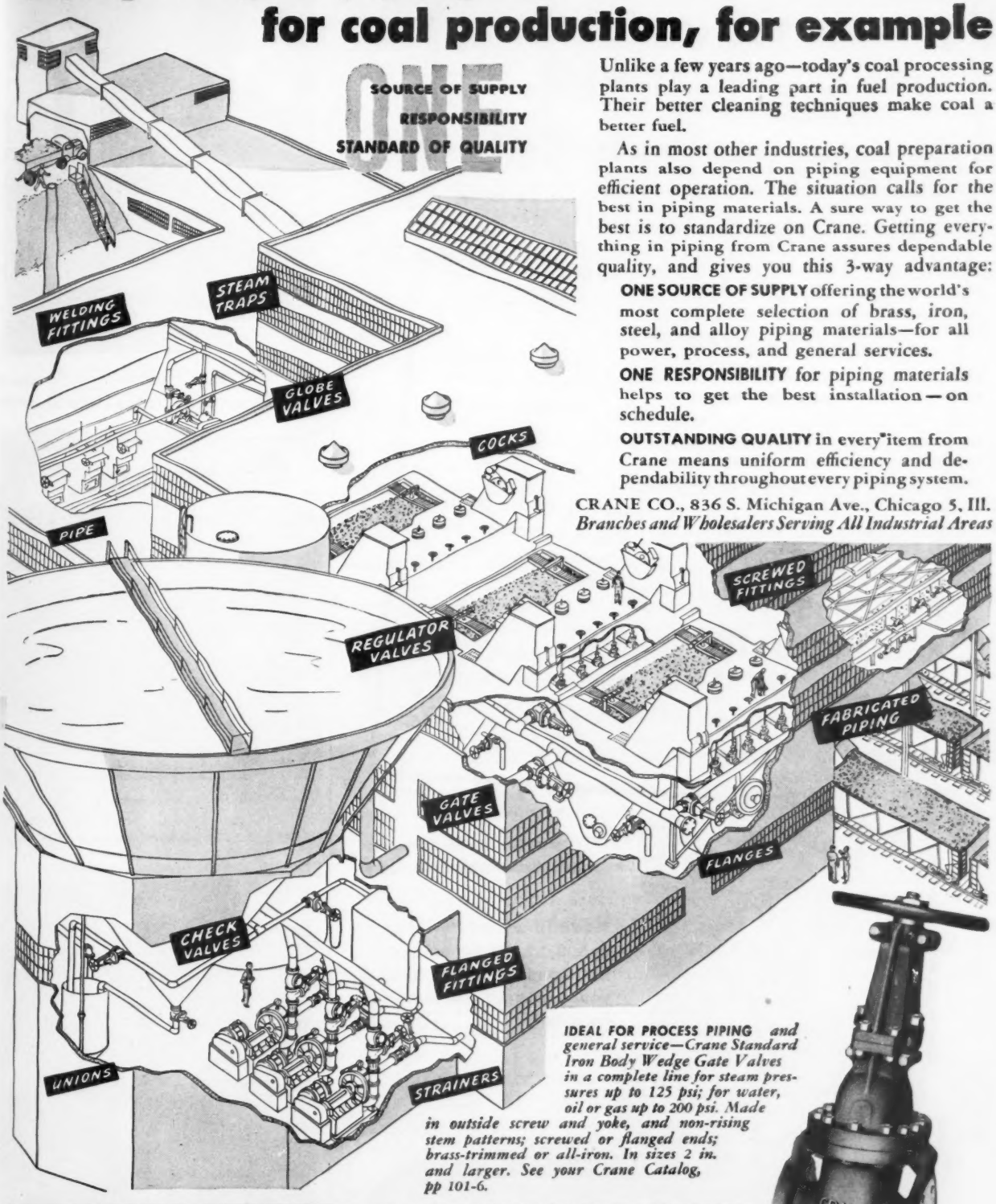


4 Inside a cylinder (left) steel balls grind ore even finer. "Classifier (right center) separates emerging ore from water, sends back some ore for regrinding



5 Fine ore then flows from grinding mill, a stream of thin reddish mud. It flows over this inclined plane, covered with canton flannel, which catches and holds coarser gold. Scraped off, gold is roasted in refinery with pure mercury (TURN TO PAGE 42)

Everything in piping . . .
for coal production, for example



Unlike a few years ago—today's coal processing plants play a leading part in fuel production. Their better cleaning techniques make coal a better fuel.

As in most other industries, coal preparation plants also depend on piping equipment for efficient operation. The situation calls for the best in piping materials. A sure way to get the best is to standardize on Crane. Getting everything in piping from Crane assures dependable quality, and gives you this 3-way advantage:

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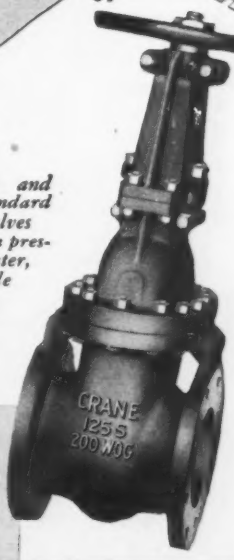

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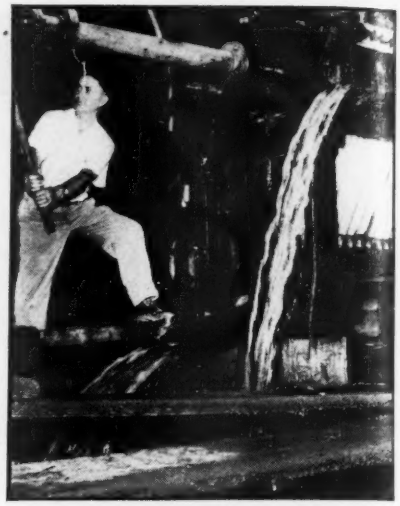
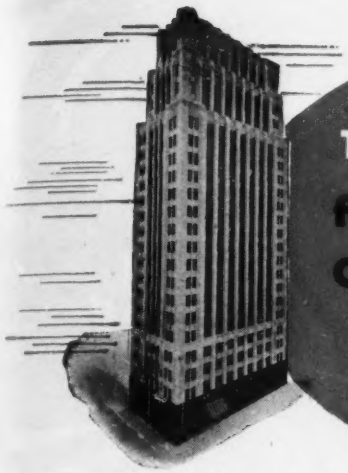


6 Fine gold that escapes flannel is mixed with cyanide, filtered through paper

7 Gold cyanide is scraped from paper, fed to furnaces, where it's heated to 3,330 F. White hot stream pours into mold

8 Small cone of gold settles to bottom. When cyanide slag cools and hardens, gold is chipped off (TURN TO PAGE 44)



The air conditioning system to cool this entire building is powered by Century Electric motors.

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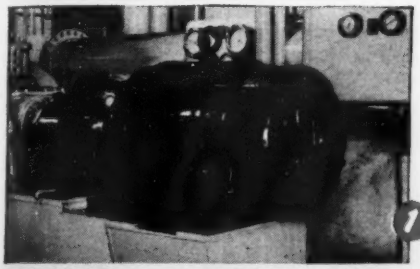
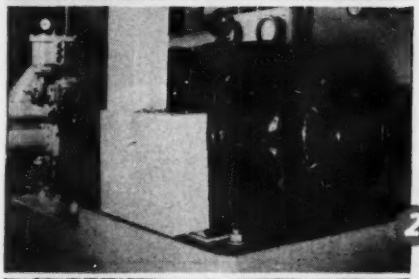
Here's an interesting example showing how the engineered selection of Century motors accurately meets the exacting demands of large air conditioning installations. The wide range of types and sizes of Century motors permits selection of the right motor for any heating, cooling, circulating, pumping or compressor application.



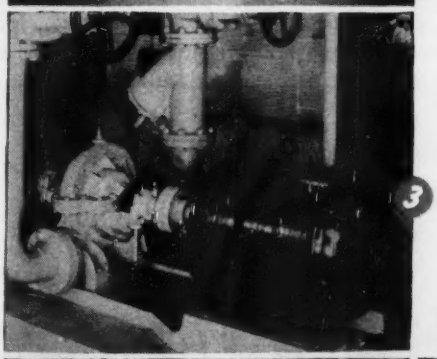
1 and **2** — Two Century type SR Slip Ring motors (125 and 200 horsepower) were selected to drive the high speed compressors because they have the necessary high torque to bring these centrifugal compressors up to full speed quickly. Speeds up to 9,000 RPM are supplied by using a speed increasing gear mechanism.



3 — Century type SC 25 horsepower Squirrel Cage Normal Torque motor drives a centrifugal pump.

4 — Century type SC 50 horsepower Squirrel Cage Normal Torque motor drives a chilled water pump—and a similar 20 horsepower motor drives a condenser water pump.

These Century pump motors easily handle the centrifugal pumps, since they require a small amount of starting torque.



5 — Century 1½ and 3 horsepower type SC motors drive fan and coil units.

6 — Century Splash Proof motor provides weather protection for this outdoor installation on a cooling tower fan.

Century builds a wide range of motor types in sizes from 1/6 to 400 horsepower to assure top performance for every electric power application.

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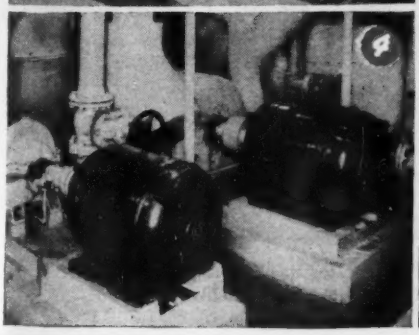

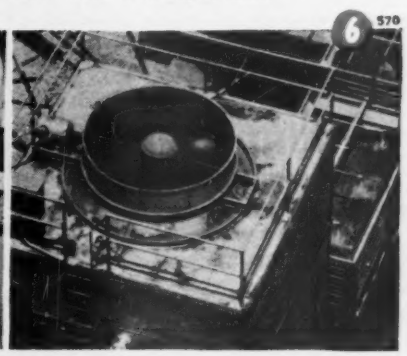

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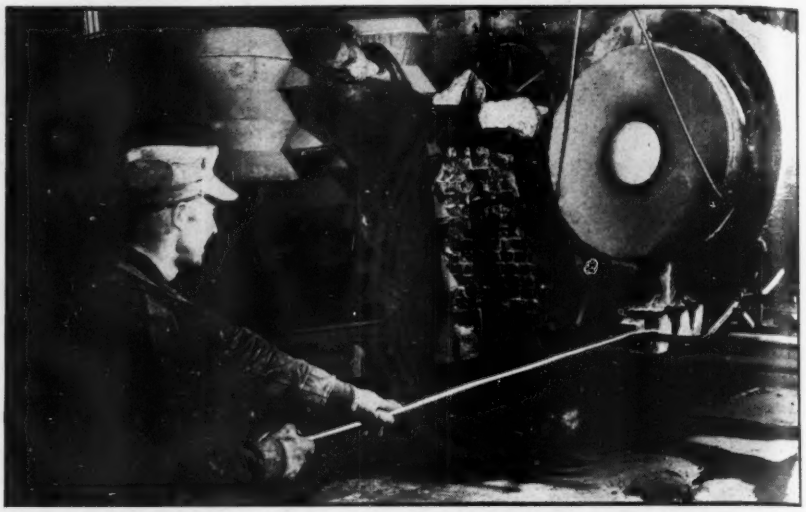
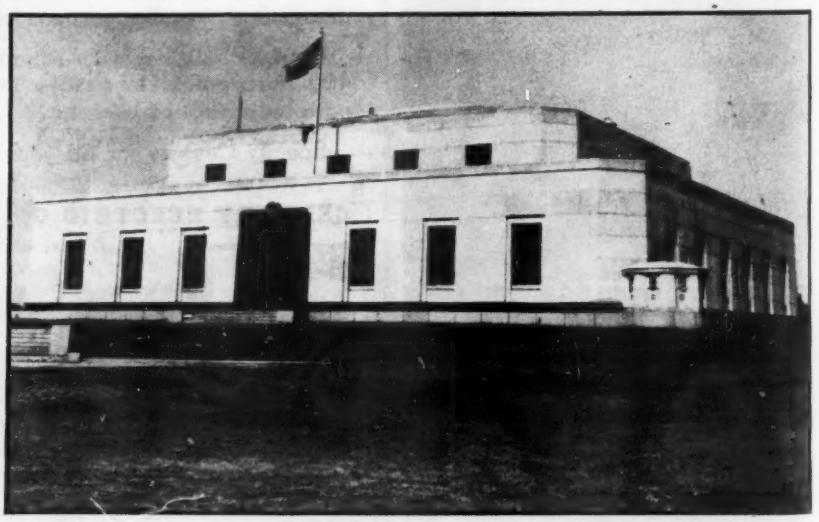
ADDRESS_____

CITY_____ STATE_____



9 Gold from both recovery processes is remelted in finishing furnace, then molded into a standard-size ingot, which is about size of building brick, and worth $30,000

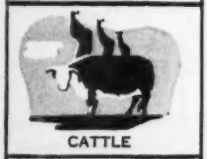
10 One man with wheelbarrow can handle the $90,000 end-product of 15,000 tons (300 carloads) of gold ore. Bars are weighed and sampled for purity, then sent to mint



11 Since Uncle Sam is sole buyer of gold (except for small amounts going to arts) most gold ends up back in ground whence it came, at repositories like Fort Knox.

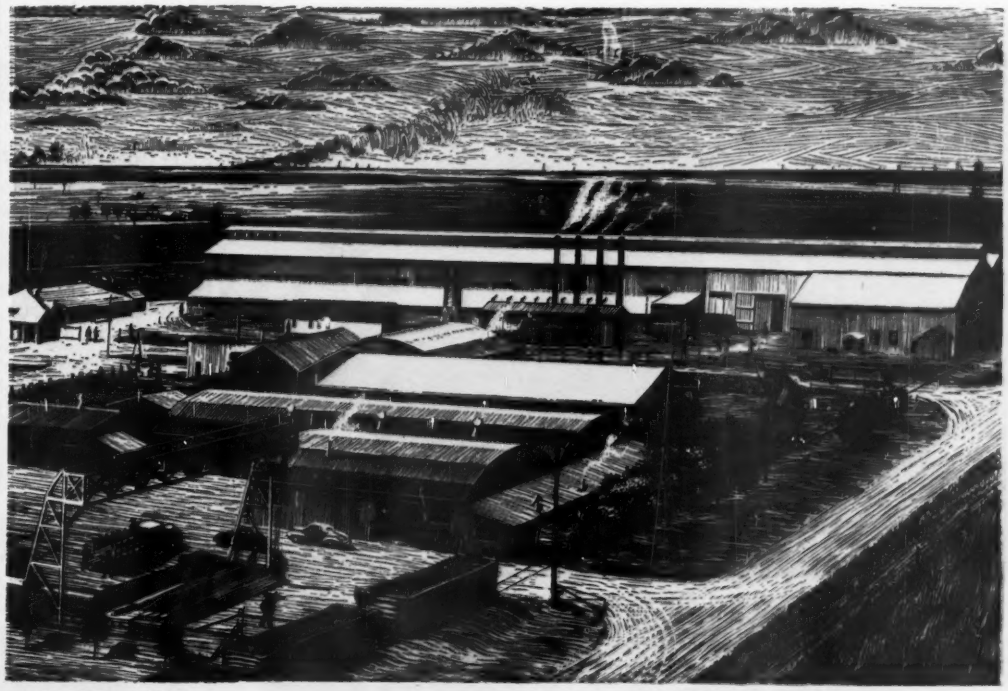
*West Texas

150,000 SQUARE MILES OF OPPORTUNITY FOR INDUSTRY



This ad is one of a series on the industrial advantages of the "Gulf South" the area served by United Gas.

Stake out a claim on this vast industrial frontier. Consider these raw materials for manufacture—virtually untouched by processors: 2-7ths of the nation's cotton...2-5ths of its oil...25% of its wool and 85% of its mohair...65% of its sorghum grains...57 million tons of potash...nearly half of all Texas cattle and 92% of Texas wheat. Here in the "80% sunshine belt" are intelligent workmen, excellent transportation, friendly government, plus power and natural gas fuel to serve your particular needs. Investigate West Texas as a location for *your* new plant.



UNITED GAS ...Serving the Gulf South

*Write West Texas Chamber of Commerce, Abilene, Tex., or United Gas, Shreveport, La.

"OFFICE HOURS" . . . . . BY LOU

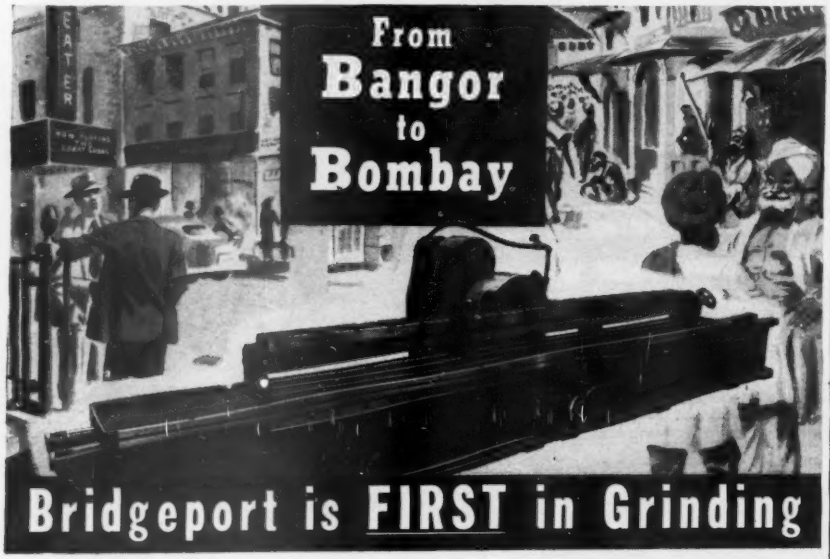
Budgets are beginning to mean something again. Every penny counts...and a "round house guess-timate" often won't suffice. When accuracy and speed in *office supply* estimating are required, call Your Stationer. He's a specialist and can provide welcome help. That's just one of the many services Your Stationer can render.

A good man to know better Your Stationer

TRADE MARKS REG. U. S. PAT. OFF.

EBERHARD FABER

LEADERSHIP IN FINE WRITING MATERIALS FOR 99 YEARS



Bridgeport is FIRST in Grinding

Wherever there's grinding, buffing or cut-off work to be done, Bridgeport machines mean more profitable production. In many parts of the world there are Bridgeports as rugged after a quarter-century or more service as the day they were made. Today's models are built to give the same brand of service . . . and are engineered for far greater efficiency in applications as new as day after tomorrow.

To help you get the right wheel as well as the right machine for your work, *complete* engineering service . . . from abrasive specialists as well as equipment experts . . . is available from Bridgeport. And it's yours not merely for the guarantee period of a machine but for as long as you can use it to good advantage. For "johnny on the spot" help with any grinding problem, ask Bridgeport First.

Just off the press . . . New descriptive Bulletin 2700 on Hydraulic Face Grinders. Write for it.

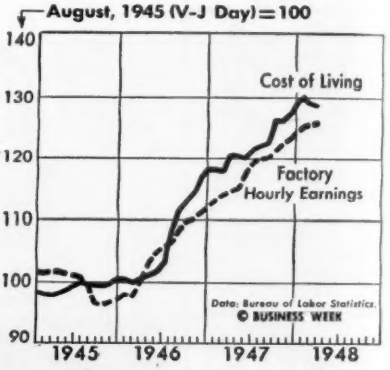
Bridgeport GRINDERS

Horizontal, Vertical, Cutlery, Knife, Floor Stand Grinders, Buffing Lathes, Abrasive Cut-off Machines, BuXite Abrasive Wheels.

BRIDGEPORT SAFETY EMERY WHEEL CO.
1308 West Broad Street, Stratford, Connecticut

READERS REPORT:

ON A PREWAR BASE, wages boosts have outrun price increases, but . . .



ON A V-J DAY BASE, wages have not kept pace with climbing prices

What Wage-Price Base?

Sirs:

I was a little surprised at the use of V-J Day as a base for your cost-of-living and hourly-earnings chart [BW—May 22'48,p104]. It seems to me that the use of such a base helps to put further steam behind the inflationary wage drives . . .

Why did you select this particular period for the charts? The harm done by the chart referred to above would be somewhat mitigated if you included data for, let's say, two additional years 1929 and 1939.

EMERSON P. SCHMIDT
ECONOMIC RESEARCH DIRECTOR,
U. S. CHAMBER OF COMMERCE,
WASHINGTON, D. C.

Sirs:

. . . Business has been confronted by the unions with the use of the 1945 base in the negotiation of new wage contracts. Increases in wages when compared to the increase in the cost of living present an entirely different and unfavorable picture to business when this date is used as a base.

There is no question but that, since

helps you catch the "bugs" before your product is fabricated

PRODUCTS OF FANSTEEL
and its controlled subsidiaries

•

Tantalum, Tungsten, Molybdenum, Columbium
Electrical Contacts
Acid-Proof Chemical Equipment
Selenium Rectifiers
Powder Metallurgy Products
Tantung* and Tantaloy* Metals
Fanweld* Hard Facing Metals
Tantalum Carbide
Tungsten Carbide
Fansteel-Balkite* Rectifiers
Fansteel-Balkite* Arresters
Surgical Tantalum Products
Vascoloy-Ramet* Carbide Tools and Dies
Weiger-Weed Resistance Welding Electrodes, Holders, Dies and Alloys

*Reg. U. S. Pat. Office

Saving in costs, time, labor and exasperation is possible only when all the "bugs" are caught on the drawing board, and in specifications—not after materials and components have been purchased, and the product has gone into manufacture.

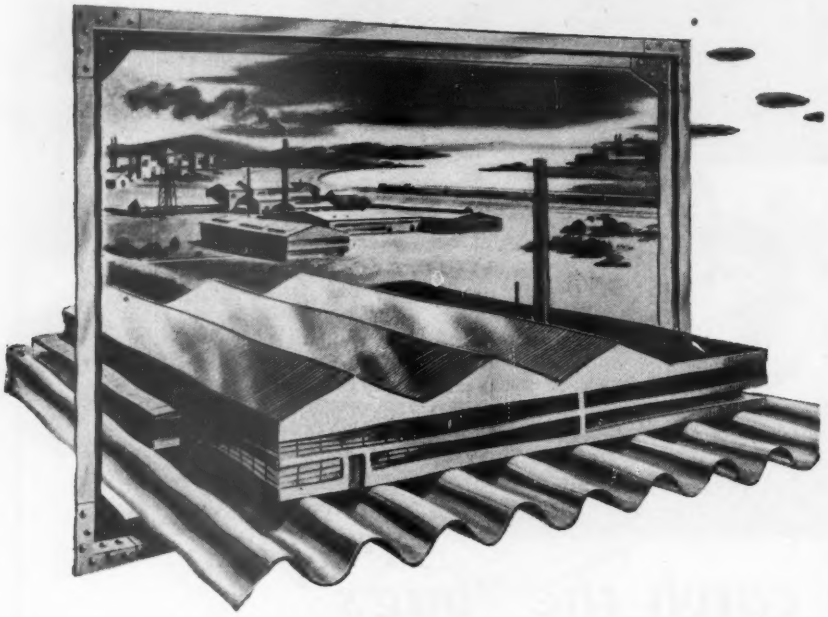
We of Fansteel see examples of this important fact almost every day. In one case an electrical manufacturer overlooked designing the correct electrical contact for his product. The product went on the market. Unexpected trouble developed There were complaints and costly adjustments. Finally he brought the problem to Fansteel where the contact problem was solved in a few hours. It would never have happened if he had consulted Fansteel first.

This is just one of a wide variety of cases where Fansteel, if consulted while designs and specifications are in the making, can render one of its most valuable services to industries. You are cordially invited to complement your engineering with our engineering counsel freely available. Fansteel Metallurgical Corporation, North Chicago, Illinois.

Fansteel

AN INDUSTRY THAT SERVES INDUSTRIES

You save on the frame and on the whole picture . . .



. . . by planning at the start with Reynolds *Lifetime* Aluminum Industrial Corrugated

FIREPROOF, rustproof, needing no painting, Reynolds Industrial Corrugated is superior for any structure, new or old. Maintenance savings make it a first choice of plant superintendents. But you get its full advantages when you plan buildings expressly for it.

Its light weight, combined with ample strength, permits economies in framing structure. Plan on them.

The fact that aluminum reflects up to 95% of radiant heat—reducing summer temperatures, retaining winter warmth—should be considered in your heating and ventilation.

The inside aluminum surface has high light reflectivity. Your illumination can be planned for better visibility at lower cost.

Our technicians will be glad to assist you in your planning, and to coordinate deliveries with construction schedules. Write to:

REYNOLDS METALS COMPANY
Building Products Division, Louisville 1, Ky.
Offices in 32 principal cities

REYNOLDS Embossed ALUMINUM BUILT-UP ROOFING

.004" aluminum makes a better 2 or 3-ply roof than a greater number of felt plies. Cools interior. Adds fire resistance. Cuts roof load.

REYNOLDS "ALUMI-DROME"

All-aluminum prefab, all-bolted construction, erected in 96 man-hours. Basic unit 36' x 60', length variable by 6' sections.

IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS *Lifetime* ALUMINUM BUILDING PRODUCTS

WORLD'S LARGEST PRODUCER OF ALUMINUM BUILDING PRODUCTS:

Shingles, Clapboard Siding, Corrugated and 5-V Crimp, Snap-Seal and Standing Seam Roofing, Weatherboard Siding, Built-Up Roofing, Nails, Gutters, Wall Tile, Casement and Picture Windows, Reflective Insulation, the "Alumi-Drome" (prefabricated farm and commercial utility building).

Jan. 1, 1941, to the present, the increases in wage rates given by business at large are greater than the increase in the cost of living for the same period.

What you have done in presenting these charts is to emphasize the position that the unions have been taking.

GEO. L. MEYER, JR.
STEWART-WARNER CORP.,
CHICAGO, ILL.

Sirs:

. . . The impression given by your charts depends to a large extent on the base from which the trends are plotted. Hence your choice of base would seem to imply that in August, 1945, the relation between dollar wages and the cost of living was on a firm foundation which had at least a fair chance of being maintained.

Yet, during the war a substantial part of the increase in wages was in effect paid by the government out of newly created money . . . after reconversion to a peacetime economy, the increased wages became part of the higher cost of civilian goods and, therefore, had to be paid by other people, including the wage earners themselves.

Also, during the war a large part of the income of the people was not spent. According to Dept. of Commerce estimates, the percentage of personal income saved rose from 4½% for 1939-1940 to 21% for mid-1945 and then declined to 5½% for 1947. While this 16% bulge in savings continued, it offset the purchasing power of part of the wages. The situation in August, 1945, was, therefore, abnormal and could hardly have been expected to continue.

Real income consists not of money but of goods and services. Hence, no comparison between wartime and peacetime is valid unless it takes into consideration the wartime shortages. The wage increases of the war period did not produce or make available any more real income (although doubtless they affected its distribution), but in the aggregate merely increased the number of dollars which could not be spent without raising prices.

If only $9 of goods and services have been produced and money income is increased to $10, either the additional dollar will be deprived of all current purchasing power by rationing at controlled prices or, if there is a free market, each of the 10 dollars will depreciate in purchasing power until the aggregate buys what the $9 would have bought before.

The dollars of income saved by price control could, of course, be spent in some subsequent year, but whenever they are spent the effect of the spending will be inflationary or at least antideflationary. This is because the money received from the sales of each year's goods and services equals the money paid. If all of the 1945 dollar income

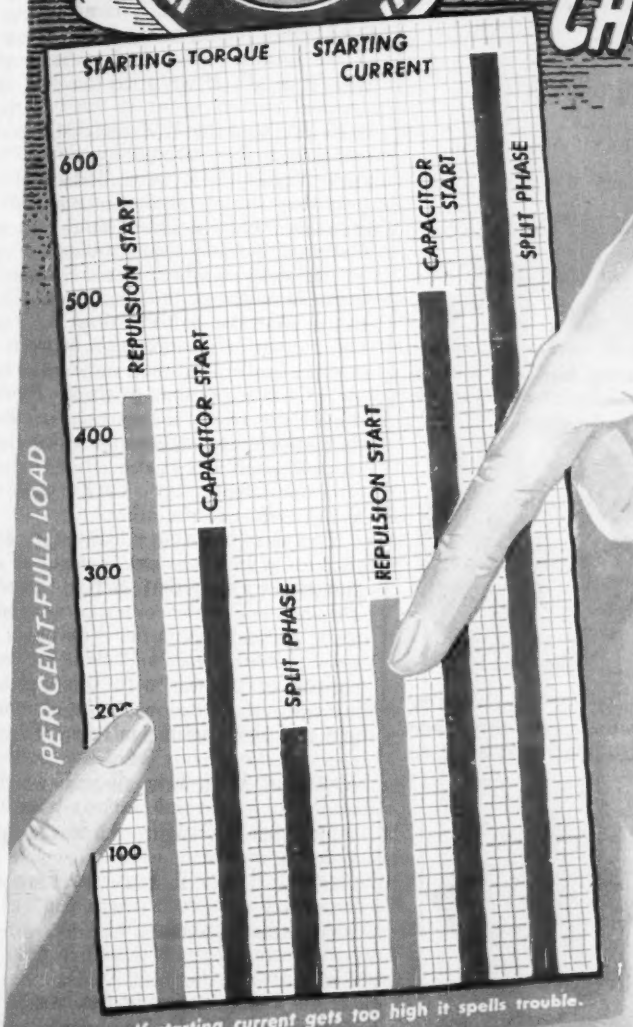
TRULY LIFE-TIME MOTORS

B-LINE Reg. Trade Mark

REPULSION START — INDUCTION MOTORS

CHECK THESE VALUES

IF YOU WANT THE BEST

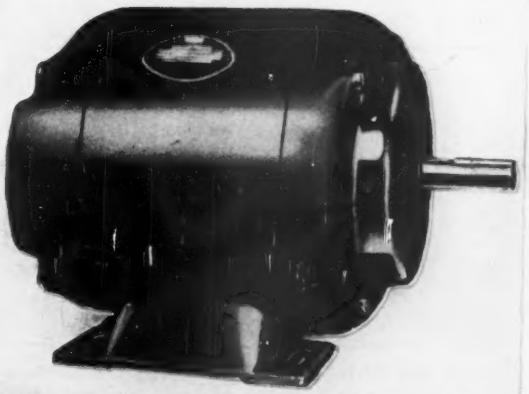


If starting current gets too high it spells trouble.

This Chart **tells the story at a glance—how the new B-LINE REPULSION START-INDUCTION MOTOR compares with capacitor and split phase motors, in high starting torque and low starting current.**

Motor troubles usually develop with insufficient starting torque, or because too much starting current is required. That's why B-LINE is the ideal motor for all equipment starting under heavy load, such as refrigerators, the newer type of automatic washing machines, water systems, compressors and other tough applications.

Remember B-LINE makes all three types shown in the comparison chart, but if you want the best in HIGH STARTING TORQUE and LOW STARTING CURRENT get B-LINE REPULSION START-INDUCTION MOTORS. See that this superior motor powers the equipment you buy



HIGH STARTING TORQUE WITH LOW STARTING CURRENT. 1/6 thru 5 H.P 95% enclosed, drip-proof, steel frame. Rubber base mounting (in fractional sizes) optional. Sleeve or "Life-Seal" ball bearings.

Manufacturers of motor-driven equipment will get maximum service and satisfaction by using B-LINE REPULSION START-INDUCTION MOTORS Write for a sample motor today.

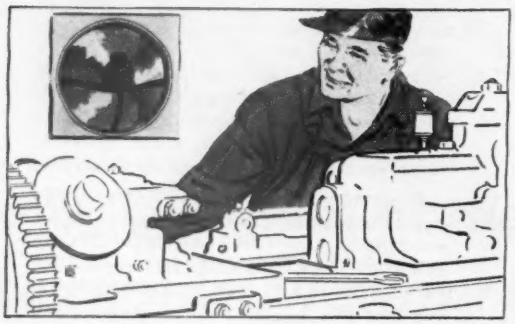
THE BROWN-BROCKMEYER CO.
DAYTON 1, OHIO
Plants at Dayton, Wilmington, Washington and Xenia, Ohio
District Offices in Principal Cities

B-Line
MOTORS

PRODUCT OF THE BROWN-BROCKMEYER COMPANY

Cool heads do "HEADS UP" work!

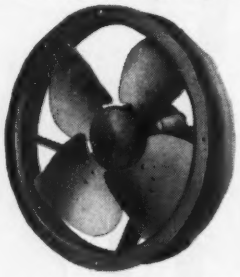
YOUR OFFICE HELP acts differently when there's an R & M Air Circulator around. What girl doesn't feel better about her work when it's a whale of a lot cooler *inside* than out?



YOUR SHOP MEN hit the ball all day when hot air is hustled outside. Watch R & M Exhaust Fans keep air in motion—and your men *moving!* They're bargains in boosted "off-season" output.

YOUR EXECUTIVES, TOO, give your problems their best when it's cool enough to think. For front-office men, there's nothing finer than a handsome, quiet R & M De Luxe Fan.

In 24" and 30" blades for ceiling, floor, wall, or bench mounting. From $91.20, list.



In 12", 16", 20", 24", and 30" blades for high- or low-speed operation. From $40.65, list.

In 10", 12", and 16" blades for desk or wall mounting. Oscillating. From $24.35, list.

ROBBINS & MYERS Fans

Robbins & Myers, Inc., Fan Sales Division, Springfield, Ohio; or Brantford, Ontario.
● Please send me R & M Fan Folder 3005 and the name of my nearest distributor.

Free

Name .....
Firm .....
Address .....
City..... *Zone*..... *State*..... B-5

had been spent in 1945, it would have bid up the prices of that year. If, instead, the savings of 1945 are spent in some subsequent year, they will bid up the prices of the year in which they are spent. The theoretical prices of a period of rationing and price control cannot, without some adjustment, be compared with prices in a free market.

The price level of August, 1945, properly applies only to that part of the income which was spent at around that time. Perhaps a price level about one-third higher should be used for that part of the income which had to be spent later, if at all. If we price the 79% of personal income spent in 1945 at the 1945 level and the 21% saved at a level one-third higher, we shall be adding 7% to the August, 1945, prices. Perhaps 21% is too high for the savings of wage earners alone. On the other hand, part of the wages actually spent did not bring the satisfactions which would have been available without the shortages. The fact is that the dollar figures alone do not measure the difference between a wartime and a peacetime standard of living. Each is peculiar to itself. People should not expect the wartime relationships which appear favorable unless they are willing to accept also all of the unfavorable relationships. Each is more or less the effect of the other.

The race between dollar wages and the cost of living cannot be reported accurately by a story that starts in the middle when one of the contestants happens to be ahead temporarily. You ought to show the entire race and stress the comparison of postwar with some prewar average rather than with the abnormal and complex wartime relation. Even if the so-called gains of labor between 1940 and 1945 were all real, which I doubt, a loss which follows a gain is something different from a loss not preceded by a gain.

E. STEWART FREEMAN
DENNISON MFG. CO.,
FRAMINGHAM, MASS.

Sirs:

. . . The selection of the base for an index frequently has an important effect upon the interpretations to be drawn from the statistical results, and I am, therefore, very interested in the reasons which underlie the selection of August, 1945, (V-J Day) as the base.

At that date, price controls were still in full effect, whereas, for a number of fringe reasons, factory earnings had continued to increase from the date at which they had been placed under control . . .

It has seemed to me, therefore, that in the selection of a base date we must go back to a period before the imposition of governmental controls—and that we would have to continue to do so until such time as a freer relationship is

attained than has yet been demonstrated. I realize, however, that there is always a tendency in the selection of statistical bases to pick those which tend to support some particular viewpoint. The McGraw-Hill organization is, I am sure, free of any bias on the subject—and the grounds for its selection of V-J Day as a base for comparison of factory earnings and cost of living would, therefore, be of interest, if for no other reason, as a check on my own rejection of that base.

W. BLACKIE

CATERPILLAR TRACTOR CO.,
PEORIA, ILL.

• We did not pick August, 1945, as the starting point for these charts because we felt that wages and prices were then in an ideal relationship. Instead, we had this in mind: We wanted to present what we call "significant" labor figures. Now, it is extremely significant from an employer's point of view that in the short-haul from 1945 to 1948 the Bureau of Labor Statistics cost-of-living index rose faster than hourly earnings in factories. It is on this short-term rate of change that the unions are basing wage demands. If we did not inform employers of this fact, we should certainly be remiss.

Furthermore, since this particular series of charts is to be printed quarterly, its whole nature is of an immediate—and not long-range—importance.

New Uses for Marbles

Sirs:

Regarding your article on "Marbles Roll into New Industrial Uses" [BW—Jun.19'48,p24]:

Last week, while attending a wedding in Ohio, I ran onto a new use for marbles which might or might not be called industrial. After the wedding the groom's car was decorated as usual with a "just married" sign and a bunch of tin cans. In addition to that, the hub caps had been taken off and a handful of marbles dropped into the hubcaps which were then replaced. I am assuming that after the groom gets the tin cans untied and still hears the racket he will need some industrial or educational thinking to locate the cause of the continuing rattle.

R. BRUCE MCPHERSON

HOWELL, MICH.

Sirs:

The writer wants to express, in behalf of our company, the appreciation of the splendid article and pictures you published about Akro Agate. We are very much pleased with the way this was handled.

W. C. MCCONNELL

AKRO AGATE CO.,
CLARKSBURG, W. VA.

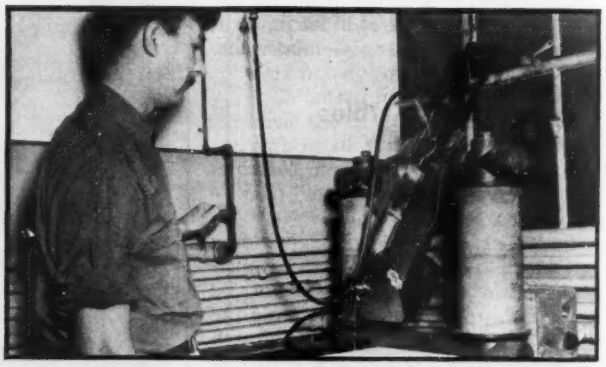
Do Away With Those Costly Carton Stock Piles!
PALMER Automatic Carton Formers Make and Deliver Finished Cartons as fast as Your Packaging Lines Demand
Figure it any way you will, reserve stocks of completed cartons may help to keep your packaging lines "on the move", but they pile up packaging costs that eat away hard-to-make profit . . . This is just one element of cost that PALMER Automatic Carton Formers eliminate . . . Now you can maintain your packaging production line efficiently at any speed and in any volume you require, without reserve carton stocks; with a minimum of floor space; with practically no manual work, and with a negligible amount of change-over time . . . In these days when high production costs are snapping at the heels of profits, we suggest that you investigate these highly efficient PALMER machines.
PALMER
High Speed Continuous Motion Carton Former
Delivers completely formed and glued cartons from standard blanks in any practical size—with plain sides, with turned over side flaps, turned over end flaps, attached covers or a combination—efficiently at almost any speed required. Small floor space.
PALMER
General Purpose Carton Former
A highly efficient convertible machine of wide adaptability. Delivers trays or cartons of any practical size from standard blanks, completely formed and glued with tabs inside or outside; with extended end flaps, with closure flaps or a combination; with or without cut-out sides; with or without, finished edges, plain or reinforced, square or tapered. Speeds to fit your requirements minimum floor space; minimum change-over time.
PALMER
FRANK D. PALMER, Inc.
528 N. Western Avenue CHE 3344 Chicago 12, Ill.
60 E. 42nd St., 411 Lincoln Bldg. VA 6-4185,-6 New York 17
PACKAGING MACHINERY MANUFACTURERS

PRODUCTION

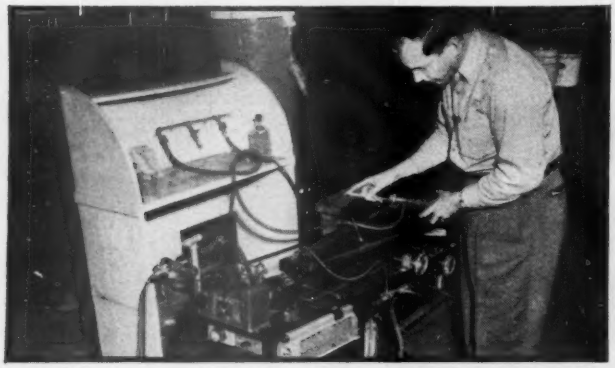
Iron from Low-Grade Ores Assures Steel

A TREASURY OF IRON ORE, this Hibbing (Minn.) mine of Republic Steel will eventually run out of high-grade raw material

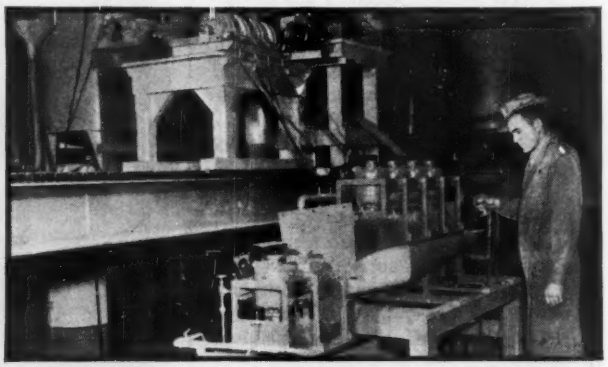
FROTH FLOTATION for separating iron oxides from low-grade ores is under study at the new laboratory of Oliver Iron Mining Co., Duluth. Another way: If the oxide is magnetite . . .



MAGNETISM will do the work. Powdered taconite (low-grade ore) in water is put in a magnetic field. Magnetite stays suspended, unwanted materials sink. Grind is important too, when . . .



FINAL SEPARATION is done with a "super-panner" (like the goldminer's pan). To get the fine grinds isolated, powdered taconite is subjected to pressurized air. After lab studies . . .



COMMERCIAL-TYPE EQUIPMENT, like this flotation unit, tests processes for continuous use. This step involves outputs up to a ton an hour, guides thinking on 150-ton-an-hour plants

eel for the Future

Steadily dwindling supply of high-grade ore for steel-making sparks industry research into new recovery techniques.

Can man duplicate in hours what nature took thousands of years to do? That's the problem that researchers of the iron-mining companies and steel companies are working on.

• **The Problem**—Minnesota taconite (iron-bearing rock) is the subject of the study. Nature, in thousands of years of leaching (chemical decomposition), converted this taconite into a vast store of rich iron ore, which is slowly but surely being used up. But nature left a lot of unleached taconite. What the technicians are trying to do is to take taconite which contains only small percentages of the much-desired iron, and devise means of recovering that iron—quickly and economically. They hope, eventually, to make low-grade taconite a dependable source of the raw materials (fairly pure compounds of iron) needed to keep our blast furnaces—and our steel-using economy—operating.

This week, in a little town near the eastern end of Minnesota's great Mesabi iron range, the first plant to produce commercial quantities of iron oxides—magnetite and hematite—from taconite was in operation. Located in Aurora, Minn., it is owned and operated by Pickands, Mather & Co. (Pickands, Mather—one of the major ore shippers—is owned by Erie Mining Co., a subsidiary of Bethlehem Steel Corp.)

• **Shortage Nears**—The significance of this operation is underlined by one vitally important fact: The vast high-grade deposits on Minnesota's Mesabi range (source of two-thirds of this nation's iron ore) are beginning to run out (BW—Apr.19'47,p20).

Mesabi's end won't come next year, or even in 10 years. It will come gradually, not suddenly. Scooping ore out of Mesabi's vast open pit is like shoveling coal from a bin: As the "stockpile" goes down, it takes more work to scrape up what's left.

Today, 80% or more of our steel mills depend on the flow of iron ore down the Great Lakes. Any slowdown in that flow would cause a major upset, not only for the steel industry, but for the economy of the whole nation.

• **Plenty of Taconite**—For this reason, if for no other, the industry has turned

Pity The Poor Working Girl!

Nonsense! Pity the poor boss! The girl will quit soon anyway, and find another job. But unfortunately for the boss, her successor will probably make the same errors and deliver the same mediocre performance. Why? Eyestrain — eyestrain caused by bad lighting. You can't expect the people in your office to be any better than the environment they work in—and you can't expect their environment to be any better than YOU make it.

★ ★ ★

Wakefield Over-ALL Lighting helps create efficient seeing conditions. Wakefield Over-ALL Lighting is a basic business tool that helps you get top efficiency from all your other business tools. A little paint, a little attention to daylight control, *an installation of finely engineered Wakefield lighting equipment*—and overnight your office force will have a comfortable visual environment to work in. Then watch the efficiency and morale curves rise! First step is an inquiry addressed to The F. W. Wakefield Brass Company, Vermilion, Ohio.

Wakefield **Over-ALL Lighting**

For Office · Drafting Room · Store and School

A BASIC BUSINESS TOOL

where a good *finish*

means a *head start*

Beauty is more than skin-deep in CMP Stainless Thinsteel.* The beauty of this new mirror-like finish—available even in annealed 18-8 grades—is just the extra dividend included with the high standards of gauge accuracy and uniformity of physical properties common to all CMP strip products. But this high lustrous surface on your stainless strip at the start can short-cut your fabricating operations and contribute substantially to lower end product cost at the finish. We will be glad to tell you more about this unusually bright finish as well as other qualities and grades of thin strip sizes which make up the CMP Stainless strip line. A request on your letterhead will bring you a sample.

LOW CARBON
SPRING STEEL
ALLOY GRADES
STAINLESS

THINSTEEL
TRADE MARK

CMP

the Cold Metal Products co.
YOUNGSTOWN, O.

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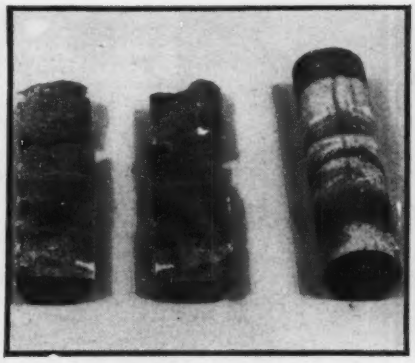
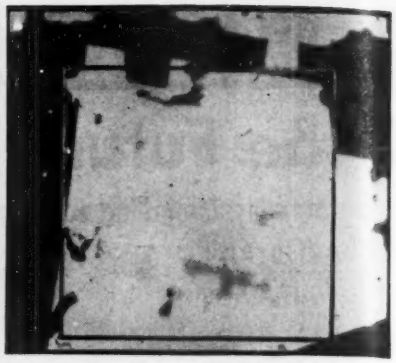


TACONITE SAMPLES obtained by rock drills show how iron oxide and useless impurities are intimately mixed. Research problem: how to separate them economically



MICROPHOTOGRAPH (square is 0.0015 in. on a side) shows nonmagnetic iron oxide (the white areas), magnetic iron oxide (the gray), and useless quartz (the black)

its attention to taconite. It abounds in the Lake Superior region; estimates run into billions of tons. But iron content is low—25% to 35% iron vs. 51.5% average for present shipping-grade ore.

You can't use taconite in a blast furnace as is; you must crush it, and take out much of the waste material—called gangue (pronounced gang). That is no easy task. For the rock is hard, and the iron—in the form of iron oxide, as a rule—is intimately mixed with the gangue.

• **Step by Step**—First, you must grind the taconite to the fineness of cement. Often this grinding must be continued until the material will pass through a 325-mesh screen (having 325 openings per linear inch).

The next step is to separate the iron oxide from the gangue. Several methods have been developed to accomplish this on a laboratory or even a pilot-plant scale. Most important of these are (1) magnetic separation and (2) flotation.

• **Two Oxides**—Some of the iron oxide in taconite is magnetic. This magnetite can be separated from the gangue by passing it through a magnetic field; the oxide will be attracted to the magnets, while the waste material will pass on.

But a major part of the ore in Mesabi taconite is nonmagnetic hematite. To extract this, you have to use a different technique. Froth flotation is a favored process. The finely powdered taconite is put into soapy water through which air bubbles are blown. The iron particles stick to the froth, while the gangue sinks to the bottom. The iron then can be washed out of the froth.

• **Magnetic Plant**—Pickands, Mather is using magnetic separation in its Aurora plant; the taconite it is treating there is mostly magnetic. The plant cost about $1.7-million; its output (assuming everything goes right) will be about 200,000 tons of concentrate a year.

But ore men are thinking in terms of plants costing $10-million to perhaps $25-million, each having an annual capacity of 1-million tons or more. So the Pickands, Mather people call their setup a "preliminary plant." They use full-scale equipment, and regular commercial practices are employed. But capacity is less than that which would bring top efficiency and economy.

• **Tests**—The Aurora installation will do more than test laboratory and pilot-plant methods for recovering the magnetic iron oxide found in taconite. It will:

(1) Test various types of commercial equipment that have been developed for the process.

(2) Give the first real information on processing costs and the amount of capital investment required.

(3) Provide enough concentrate so that it can be tried out in blast furnaces.

• **Too Fine**—The concentrate, as it emerges from the separating equipment, is too fine for quantity shipment or blast-furnace use. It must be agglomerated (made into larger chunks which will "stay put" in open ore cars, ore-boat holds, or blast furnaces).

At the Pickands, Mather plant, this fine concentrate will be pressed into pellets about $\frac{3}{8}$ in. in diameter and heated; each pellet then will become a porous mass, suitable for charging a blast furnace.

• **Other Plants**—This is the first plant of its kind. But other companies have similar projects in the planning or talking stage.

Reserve Mining Co., for instance, plans to tap the magnetic taconite deposits of the Mesabi (BW—Jan.3'48, p26). And Pickands, Mather itself is conducting laboratory studies of the problems involved in handling nonmagnetic taconite.

• **Oliver's Idea**—U. S. Steel Corp. is trying a somewhat different approach. It wants to hand-tailor extraction methods to fit individual conditions which taconite plants in various parts of the range will meet. So Big Steel's subsidi-

ary, Oliver Iron Mining Co., has launched a $35-million research program.

The nerve center of this project is Oliver's new research laboratory at Duluth, Minn. (pictures, page 52). Here, experts are analyzing taconite samples from all parts of the Mesabi. They are trying known methods of separating ore and gangue on various samples; they are testing combinations of methods, too. They may devise new ways of doing the job.

They do all this work on small batches of taconite, by "test tube" techniques. Next step will be to set up a laboratory pilot line; here near-commercial-size equipment, and methods capable of producing perhaps a ton of concentrate an hour, will be used.

The final step is a field pilot plant at the ore site. On the basis of this work, decisions can be made on how to construct full-scale commercial concentrating plants.

• **Cost**—What will such plants cost? The industry can do no more than guess. A conservative figure is $10 for every ton of concentrate produced annually. Thus, a plant turning out 500,000 tons of concentrate a year would cost $5-million to build and equip.

Production costs also are anybody's guess at this stage. Concentrate from taconite will certainly be more expensive than present open-pit ore. But the concentrate, with its 60% or more of iron, will make a better blast furnace feed than present ores, which average 51.5% iron; so lower smelting costs may help offset higher mining costs.

• **Power and Water**—Huge quantities of cheap power (60 kwh. to 75 kwh. per ton of concentrate), and tremendous volumes of water will be required. They are not available on the Mesabi now.

For water, mining companies probably will turn to Lake Superior, some 50 mi. away. But the power is not yet in sight.

EASTMAN TAKES OVER

Distillation Products, Inc., is now completely in Eastman Kodak Co.'s camp. Since 1938, the Rochester (N. Y.) concern has been jointly owned by Eastman and General Mills, Inc. (BW—Feb.28'48,p66). Last week Eastman announced it had bought out General Mills' share.

Distillation Products was a pioneer in the commercial development of molecular distillation (used in improving plasticizers and in refining edible and industrial oils). Today the company makes vitamins, and high-vacuum equipment for the chemical and electronic industries. Plant size has grown from 13,800 sq. ft. in 1939 to about 225,000 sq. ft.

WILL YOUR LIGHTING KEEP ITS new look?

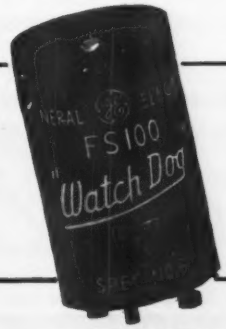
Not if the lamps in your fluorescent fixtures begin to blink and flicker! That's when your *good* lighting begins to lose favor with customers and employees.

It's easy to avoid the pitfalls of "under par" lighting. Just make sure that your fluorescent fixtures are equipped with General Electric Watch Dogs* — the almost magic starters that make *good* fluorescent lighting *better.*

Watch Dogs cut failing lamps out of the circuit in less than a minute. When new lamps are installed, a push of a button puts your fluorescents right back at their peak of performance. There's no longer any reason for fatiguing eyestrain and poor product display due to flickering.

General Electric Watch Dog starters mean money in your pocket when it comes to maintenance, too. They protect ballasts and circuits from the torture of useless starting attempts. And they outlast conventional starters. Better check your installations now to make sure that they are equipped with the starters that keep the "new look" in your lighting — General Electric Watch Dogs.

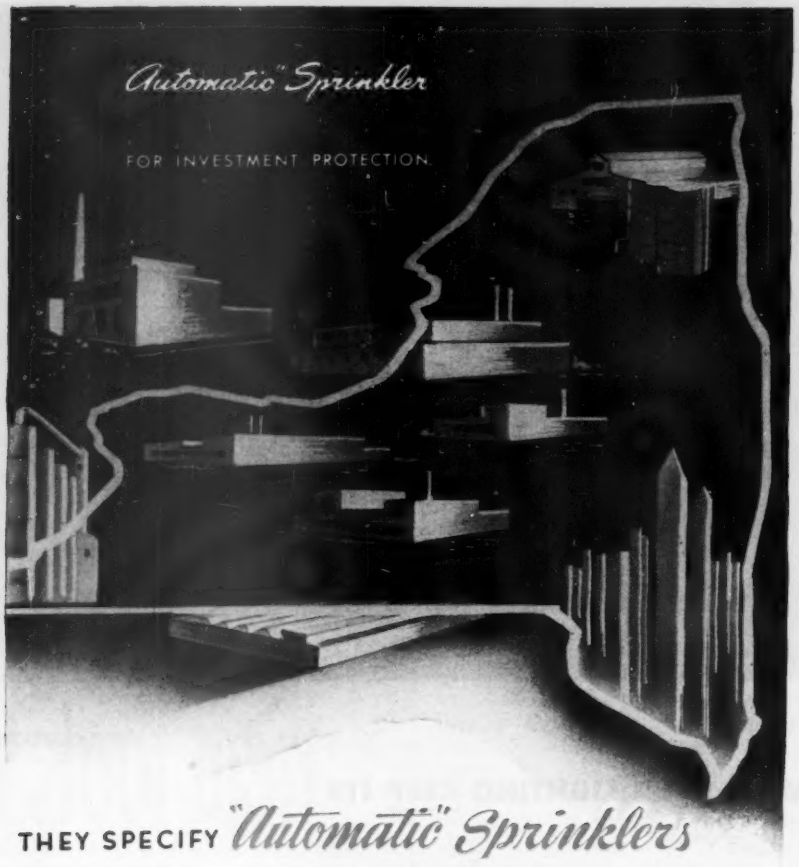
*Trade-mark Reg. U. S. Pat. Off



WATCH DOGS are only one of the complete line of accessories which General Electric makes, to help you make the most of fluorescent lighting. Better check with your lighting contractor, or supplier, to make sure that the fixtures you buy and the lighting systems you operate are General Electric equipped all the way through.

For full information, write to Section Q-19-710, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC



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Scientists have expended considerable energy in their attempts to master fire, yet, at every hand stand ruins, evidence of their failure. Only protection from fire has been steadily advanced, and *"Automatic" Sprinklers* today stand as science's greatest contribution to the never ending battle against fire destruction.

The accomplishments of *"Automatic" Sprinkler*, during more than sixty years of fire protection pioneering, spell constant advancement and development. The results are best measured in terms of product dependability and service . . . substantial reason why *"Automatic" Sprinklers* figure more and more prominently as specified equipment for both old and new construction. *They're an important investment today . . . perhaps welcomed protection tomorrow.*

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INVENTOR Ancet hopes his . . .

Circular Loom Will Invade U. S. Market

New looms continue to invade the textile field. The latest entry, now being shown to U. S. manufacturers: A French circular loom (above). This loom is being built in limited quantities in France by Fayolle-Ancet & Co., of Villeurbanne. The idea behind the showing in the Long Island City plant of Hafner Associates is to get manufacturing started here. This week several textile-machinery builders and other machinery makers were displaying a lively interest in the loom and what it can do.

• **Advantages**—The circular loom has two big features:

(1) It is capable of high production per machine; 100 circular looms will weave as much cloth as 400 conventional looms—but will require floor space equivalent to only 133 regular-type machines. The new loom uses eight "shuttles" which operate simultaneously; the conventional loom uses one.

(2) It is less likely to damage yarn. Reason: Two of the three reciprocating motions of conventional looms are replaced by gentle circular motions less likely to be wearing on the fibers.

• **Costs**—Textile experts think the loom can be built for about two to three times the price of regular looms; they say that at such a price its production advantages could make it a competitive item in the U. S. textile-machine market.

NEW SYNTHETIC VARNISH

A completely synthetic varnish has been made from a petroleum chemical—glycerol alpha allyl ether. Shell Development Co., research subsidiary of Shell Union Oil Corp., gets the credit.

Shell Development already has turned out a string of petroleum synthetics that can be substituted for natural ma-

HOW NYLON KEEPS A BODY BLOW FROM BECOMING A BLOW-OUT PUNCH

Every time a heavily loaded tire hits a rock, a curb or even a deep rut, it takes a body blow that can lead to a bruise . . . and a blow-out. Such an impact can put a tire out of the running 'way before its time.

During the war, engineers found that nylon fibers gave airplane tires the strength and elasticity to absorb the shock when 50 tons of bomber hit the runway. Today's heavy commercial transport planes land on tires in which the cord fabric of the carcass is all nylon. And now truck and passenger car tires also utilize nylon's elasticity to cushion the blows they have to take.

Du Pont nylon has another use in tires. Nylon cords are built into the tire as part of the carcass directly underneath the tread. This breaker strip absorbs the shock of impact . . . protects the rest of the cord body. The results: Danger of bruising and tread-separation is reduced; more tires can be re-capped.

Industry is constantly finding new ways to improve products—or make new products possible—by using Du Pont nylon fibers. Have you checked up on nylon's remarkable combination of properties?

NEW BOOKLET, "*Nylon Textile Fibers in Industry*," may help you estimate the value of these versatile fibers. For your copy, send request on your letterhead to Nylon Division, Room 6509. E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

Perhaps **YOU** *can profit from the properties of*
DU PONT NYLON FIBERS

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TOUGHNESS • DURABILITY
ELASTICITY • FLEXIBILITY
LOW MOISTURE ABSORPTION
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For nylon . . . for rayon . . . for fibers to come . . . look to Du Pont

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If your payroll department has trouble in getting payrolls out on time or preparing quarterly reports, just clip and mail the coupon below. It will bring you complete information about Todd Payroll Systems, the *time-saving, money-saving* way to reduce costly overtime, errors and needless work whether you have 10 employees or 10,000.

The experience of thousands of payroll departments throughout the country shows that Todd Payroll Systems cut payroll posting time more than 61%! Three separate operations are completed at *one* time... repeated copying is eliminated...quick, *accurate* payroll preparation is assured.

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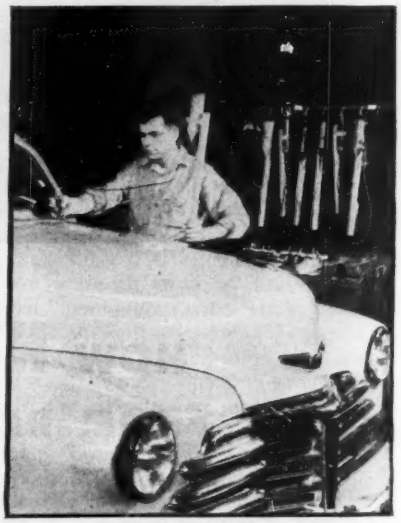
BW-7-17-48

terials in paint and varnish making. Among them: a series of ketone solvents, aromatic hydrocarbons, and synthetic glycerol. Glycerol alpha allyl ether, newest of the chemicals, is made from propylene, a petroleum gas. According to Shell, varnishes made from the new material give a hard surface, have good flexibility and toughness. They can be used on glass, wood, steel, tin, or aluminum.

COLOR FACSIMILE COMING

Finch Telecommunications, Inc., is already well into production on 5,000 of its Colorfax recorders for receiving colored facsimile broadcasts (BW—Aug.16 '47,p40). The company began commercial manufacture when the Federal Communications Commission removed the barrier on sponsored facsimile programs, effective July 15.

Finch is also making the color transmitting equipment for FM broadcasters (facsimile transmissions are confined to FM). The home units, priced at $100 to $150, can be attached to any standard FM receiver. Finch expects to have some ready for the New York market by the time sponsored programs start.

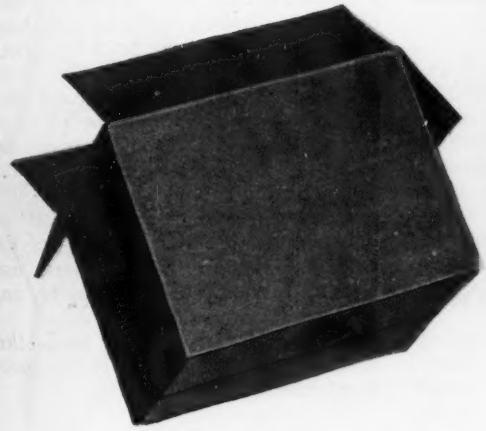


Car Primper

During final auto assembly, paint sometimes gets chipped off metal edges—like those on the hood. At Chevrolet's Flint (Mich.) assembly plant, a portable touch-up takes care of that. The operator has seven paint containers, filled with different colors. Each container has a rubber hose, a V-shaped metal nozzle, and a trigger valve. Stick mounts put the containers far enough above the nozzle so that the paint flows by gravity when the trigger is pulled. As the new car passes the station, the operator selects the proper color container, pulls the trigger, runs the nozzle against the chipped edge.

Experienced buyers look at the Pedigree

buyers of boxes, too



THE COCKER SPANIEL, American member of a family that traces back to the 14th century, is still a great favorite with sportsmen. Cockers are said to be so named because they were first used in hunting woodcocks. Affectionate and merry, they are perfect family pets.

FOR ASSURANCE OF *Quality*
FOR ASSURANCE OF *Service*
FOR ASSURANCE OF *Fair Price*

MOST corrugated containers *look* alike. But the difference shows up in performance.

The famous Union shield trade-mark is your assurance that every step in making the box, from the forest to the finishing room, is handled by trained personnel in the largest Kraft pulp-to-container plant in the world.

It symbolizes seventy-five years of leadership in designing, engineering and producing paper packages . . . plus long experience as one of the nation's larger producers of Kraft container board.

You can rely on Union shield-marked boxes to give you quality and service at a fair price—not only this year but for years to come!

UNION *Corrugated Containers*

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Principal Offices: WOOLWORTH BLDG., NEW YORK 7, N. Y.

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NEW PRODUCTS

Desk Unit Sends and Receives Telegrams

Telegraph and cable service can be as close as the inkwell on your desk if you're lucky enough to get one of Western Union Telegraph Co.'s new miniature facsimile machines. The Desk-Fax, a simple, compact unit (10 x 11 x 7 in.), will send out either typewritten messages or your longhand scribblings.

Before the war, Western Union made facsimile machines that did just about the same job. But the units were large—and they used expensive electronic equipment such as photocells, inverters, and amplifiers. In the Desk-Fax, engineers found a way to do away with most of the electronic trappings. The solution: an adaptation of the original facsimile process—first tried about 75 years ago—which used wax on a metal plate. The new design is so simple that manufacturing costs were cut from about $400 for the old machines to about $100 for the Desk-Fax.

Here's how you go about sending a message with the new machine: You type or write on a special telegraph blank placed over a sheet of black electrical conductor paper. The telegraph blank has a wax coating on the back of the sheet; pressure of the writing or typing transfers the wax from the top sheet to the conducting paper. The conducting paper is then put on the cylinder of the Desk-Fax. As the cylinder rotates, an electric stylus travels over the paper, picks up impulses from the black areas but skips over the parts covered with wax. At the central telegraph office, a receiving machine makes a reproduction of the message. It then goes out to the destination city over W. U.'s regular system.

The Desk-Fax becomes a receiving unit when the central office signals (by buzzing) that it has a message to send. The customer puts a sheet of gray, electrically sensitive paper on his cylinder and presses a button to give the go-ahead for the transmission. The electric stylus writes out the message in black letters on the blank, stops automatically.

Thus, Desk-Fax serves the purpose of the telegraph messenger (or phone) for outgoing and incoming messages. Desk-Fax telegraph blanks have enough room for 150 words per sheet; the set will send any message up to that limit in 2 min.

Western Union expects to be in quantity production on the sets within the next four or five months. Applications for installations will be handled through local offices of the company; there is no charge to the customer other than the regular telegraph costs. Later on, the company expects to make the units available on a lease basis for intraplant communication. Regular telegraph wire is used for installation.

• *Availability: early fall.*

Magnetic Purifier

Pulling iron or other fine magnetic particles out of chemicals, powders, or salts is a job done by a magnetic pulley manufactured by Eriez Mfg. Co. Designed to work at the end of a belt conveying system, the Puri-Pulley has its magnetic strength concentrated close to its face. Hence, metallic particles, attracted by the pulley, stick fast to the belt, drop into a waste receptacle.

According to Eriez, the magnetic field one inch from the pulley's surface is about three times as strong as that of the standard magnetic pulley. Alnico magnets and improved design account for the increased magnetic force, the company says.

Shaft diameters of the new unit are standard; existing nonmagnetic pulleys can be replaced with the Puri-Pulley without changing bearings or shaft mounts. The magnetic field is nonelectric. The unit can be had in 18-in. and 24-in. diameters, in belt widths from 12 in. to 60 in. The company address: 598 Commerce Bldg., Erie, Pa.

• *Availability: five to seven weeks.*

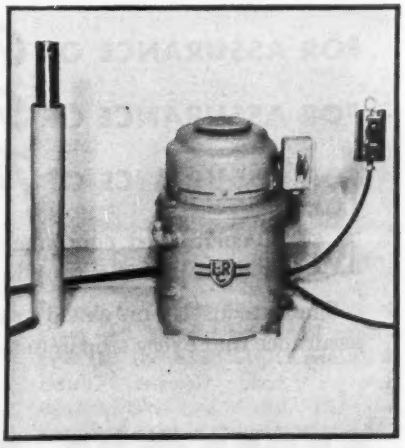
Displays With Depth

Colored car cards or window displays can be turned out in three dimensions with a process developed by Stanley Wessel & Co., 737 N. Michigan Ave., Chicago.

Wessel makes the reproductions by a method it calls the Triographic Process. This involves, first, lithographing the picture or drawing on a flat sheet of cellulose-acetate plastic. The sheet is then molded over a sculptured die. The finished card combines parts of the sketch raised in relief with depressed areas where samples of the product can be placed.

Finishes for the displays can be glossy, dull, or satin. Wessel says the cards are unbreakable in normal use, washable, waterproof, scratchproof, and light in weight.

• *Availability: Wessel is in production now; deliveries will vary with the specifications for each order.*



Neat Pump

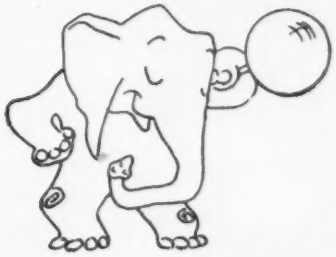
Compact design is highlighted in a hydraulic pump manufactured by Lyon-Raymond Corp., Madison St., Greene, N. Y. The power unit will develop a pressure of 1,000 p.s.i.

Size is cut down by using a flange-mounted motor placed on top of the

Make it of STAINLESS STEEL!

Make it Better Looking

Make it Stronger



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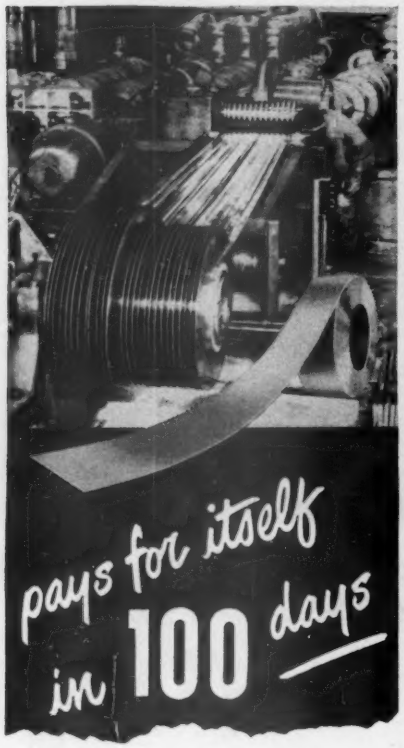
YODER SLITTER



If you have difficulty in making or obtaining prompt deliveries on slit-to-width coils or sheets, a Yoder rotary gang slitter may be the answer. In the first 100 days of operation, after allowing for labor cost, it repays your entire investment. Even if operated near capacity for only five days per month, it is still highly profitable, besides speeding deliveries, simplifying inventories and production planning. There is a big and constantly growing demand for slitting service. Many Yoder slitters are used exclusively for this purpose.

Yoder standardized slitters are available in capacities up to .125" thickness, 12" to 36" width, 21 or more parallel cuts. Accuracy easily held within .004", plus or minus, and even better. Larger sizes also made; perfected through 30 years' active engineering development.

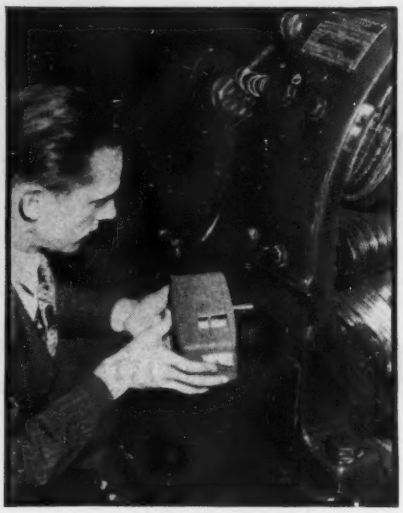
Literature • Recommendations • Estimates

THE YODER COMPANY
5530 Walworth Ave. • Cleveland 2, Ohio

COLD FORMING
YODER
SLITTING AND
TUBE MILL MACHINERY

oil reservoir. Although the reservoir has an oil capacity of 2½ gal., the entire pump assembly is only 18¼ in. high by 12½ in. in diameter. The pump is ready for work as soon as you connect the pressure line and plug the electric cable into an outlet. The motor is a ¾-hp. a.c. model, available for 110 v., 220 v., or 440 v. service. The standard unit has a three-way valve for a single-action hydraulic cylinder.

• *Availability: four to six weeks.*



Vibration Recorder

General Electric Co.'s engineers have come up with a new tool for studying vibration problems in factory buildings, gears, and motors. The instrument, called a recording vibrometer, is about the size of a loaf of bread; it both measures and records vibrations.

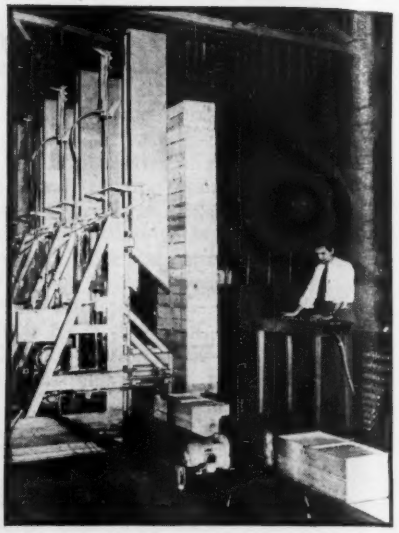
A short metal prod, which is held against the vibrating object, sticks out from the side of the vibrometer. Inside the instrument's case, a moving sapphire point rests on moving waxed paper tape. The prod transmits vibrations—magnified 12 times by a spring—to the moving point. The point draws curves which show the frequency and the amount of vibration. A constant-speed motor moves the tape under the point and makes a timing mark on the tape every three seconds. G. E. is at Schenectady 5, N. Y.

• *Availability: 14 weeks.*

Box Sorter

Containers with products of different sizes, brands, grades, or colors are sorted quickly on a box segregator developed by Food Machinery Corp., Riverside, Calif. The FMC Automatic Segregator is intended for use in packing houses, railway terminals, and warehouses, and on industrial assembly lines.

In packing houses, for example, where fruit has to be sorted before final curing and ripening, one operator can do the work. Mixed boxes in single file feed onto the segregating line from a conveyor. Near the receiving end of the line there is a control zone and the operator's station. As the boxes pass, the operator makes a selection, then presses the button controlling the automatic sorting of that particular classification.



The equipment then automatically diverts the box to its proper conveyor line, stocker, or storage space. Capacity of the equipment is limited only by operator-speed in selecting the boxes and pushing the proper buttons. Food Machinery says the system has been successfully used to sort 30 large lemon boxes per minute.

• *Availability: 30 days.*

P. S.

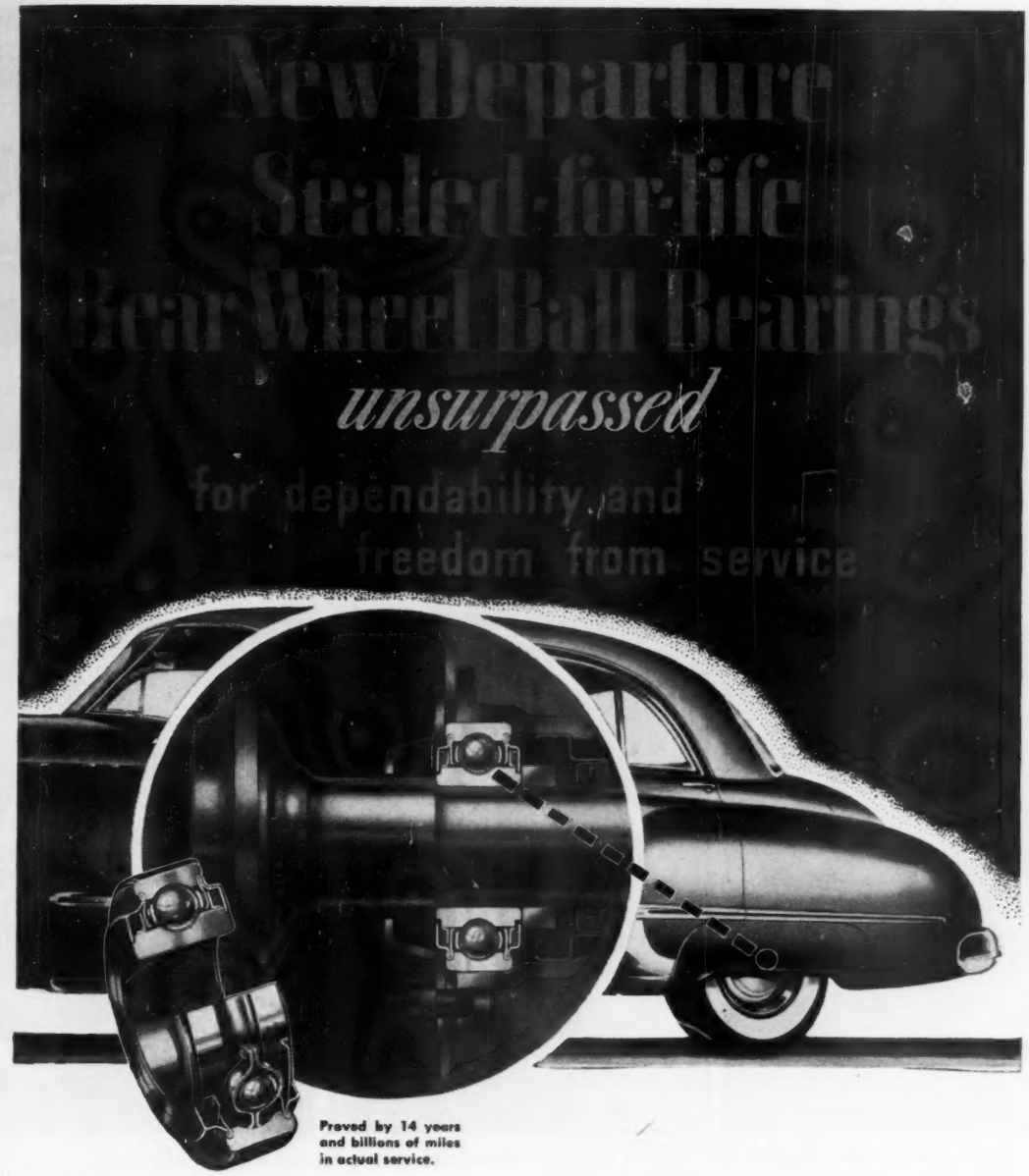
Industrial truck that combines a low-lift platform and a crane has been announced by Elwell-Parker Electric Co., Cleveland.

Air conversion unit makes a hand-operated arbor press into an air press. The manufacturer, Paragon Metal Products, 844 W. Adams St., Chicago 7, says the unit will fit any of the popular sizes.

Solvent added to regular hydraulic oils will dissolve sludge and gum in hydraulic systems. Swan-Finch Oil Corp., 1248 Sixth Ave., New York, calls the product Hydro-Solv "A".

A pipe gasket for coupling glass or porcelain-lined pipe has a special inside buffer ridge. Pipe ends, when joined, butt against this ridge which cushions them from shock. Drinkwater, Inc., Spring & Madison Sts., Waukegan, Ill., the manufacturer, says the Presto-Lock couplings will keep the pipes from grinding against each other, prevent cracking and chipping.

BUILT TO BE FORGOTTEN!



Proved by 14 years and billions of miles in actual service.

A New Departure creation—working unseen yet faithfully for driving pleasure.

Proof against neglect or wrong lubrication. No dirt can get in, no grease escape to cause slipping brakes. No bearing adjustment needed—*ever!*

New Departure has produced over 126 million self-sealed ball bearings of various types.

This year millions of cars will roll easier—smoother—on New Departure sealed-for-life rear wheel ball bearings.

Will yours?

A booklet of interest to automotive designers and owners alike will be sent on request.

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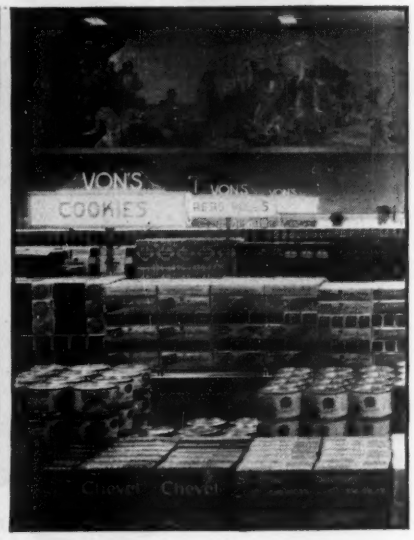
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS CORPORATION • BRISTOL, CONNECTICUT

MARKETING

Supermarket-warehouse combination built by Red Owl stores in Minneapolis suburbs, and . . .



Murals and shopping aids featured in Von's supermarket in Los Angeles illustrate why . . .

Local Supermarkets' Business is Growing

Regional food chains expand, too, as Big Three national chains find that their long-time supremacy is weaker.

Competition is getting tougher these days for the Big Three food chains (A. & P., Kroger, and Safeway). In 1941, this trio did 22.4% of all grocery-combination store business. Last year its share had slipped to 17.4%.

One big reason for the drop is the growth of a second level of bigsters: regional chains and local supermarkets. The fight is for big stakes—a $25-billion market. There is a third group in the contest—the smaller independents.

• **New Super**—This week, while the national chains held back their supermarket building programs because of high construction costs, the Grand Union Co., a regional chain, opened the biggest supermarket in the country in New York City. It's a 100% self-service affair, with Grand Union's own invention—the Food-O-Mat self-service dry grocery counter (BW—Jun.24'47, p66). The market also has prepackaged fresh meats on a self-service basis, proprietary drug items, and a confectionery line. Grand Union plans 15 more big, 100% self-service markets this year.

• **Coast to Coast**—Grand Union's move shifted the title to the biggest supermarket from the West Coast to the East. Von's Grocery Co., Los Angeles, opened what was then the biggest super of them all early this year. It featured wall murals, store directories on shopping carriages, a return-bottle department (pictures, above).

Two weeks ago, Food Fair Stores, Inc.,

Philadelphia, another big regional chain, opened its 100th supermarket, in Atlantic City. Food Fair will spend several million dollars this year to revamp its stores and add new ones. Average annual sales per unit now are $1-million, not unusual among the big supers. A. & P.'s average is probably less than half that.

• **Independents**—Below the big operators are the hundreds of local supermarkets. Independent grocers hit the jackpot during the war. Many used their new riches to go into the supermarket business. These Johnny-come-latelies are the toughest of all competition for the chains. They push low-priced items and loss-leaders, use all kinds of gimmicks to boost store traffic, advertise heavily.

• **Creeping Up**—The Big Three have dominated the retail food trade since right after World War I. But since 1941 the regional chains and the locals have been expanding their sales faster than the big national chains.

This expansion is shown by the sales of 15 regional chains that publish annual reports (table, page 66). The 15 increased their sales by an average of 155% in the 1941-47 period. The Dept. of Commerce estimates that the sales of all chain groceries increased only 125% in the same period. Industry estimates of increases for all regional and local chains and supermarkets are a good deal higher even than the figure for the 15—some say it's as high as 200%.

• **Local Biggies**—Hundreds of these do not reveal their sales figures. Yet Henke & Pillott and J. Weingarten, Inc.—two who don't—between them probably get 50% of the grocery business in the Houston area. And both are expanding.

Other comers: Food Center, St. Louis, which grew from 7 to 17 markets in six years; Red Owl Stores, Inc., Minneapolis, which celebrated its 26th birthday recently by opening a huge new combination supermarket, warehouse, and office (picture, page 64); Star Markets, Boston, whose combined sales in four supers are gaining at the rate of $500,000 a year; Wrigley's Stores, Inc., Detroit; Big Bear Stores Co., Columbus, Ohio; Milgram's, Kansas City.

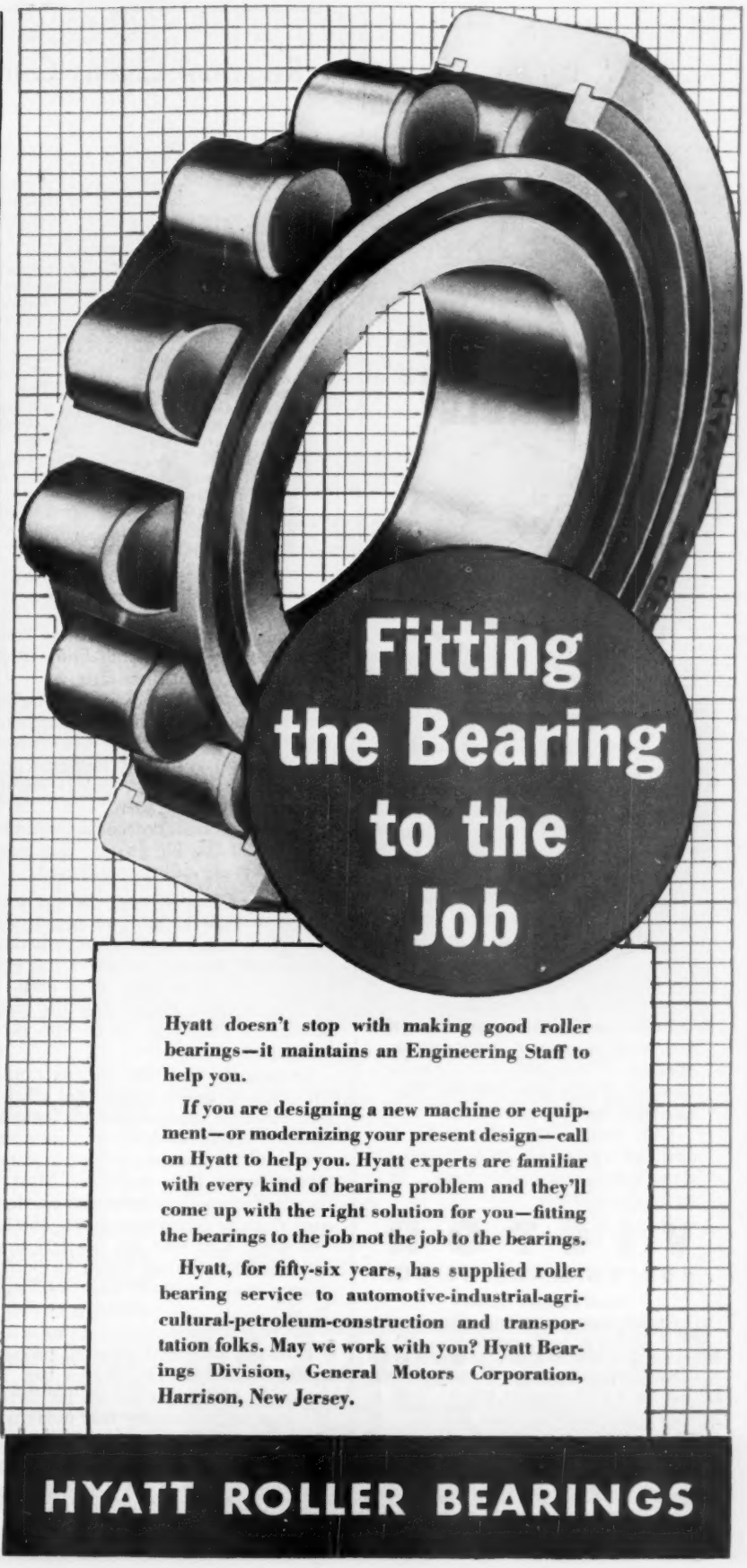
• **Why National Chains Lose Ground**—There are a number of reasons for the recent slowing down of the big chains:

• Bigness keeps them from adopting new trends fast.

• Wartime regulations hit the big chains much harder than the little fellows.

• The Antitrust Division has hounded them for 10 years in the federal courts (BW—Apr.14'45,p98). This is one reason they are wary of using their vast economic and financial power to expand too fast today.

• State loss-leader and fair-trade laws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Hyatt doesn't stop with making good roller bearings—it maintains an Engineering Staff to help you.
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Hyatt, for fifty-six years, has supplied roller bearing service to automotive-industrial-agricultural-petroleum-construction and transportation folks. May we work with you? Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.
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☐ Send free "Secret of Speed" booklet.
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Regional Chains Outgain the "Big Three"

Company	Headquarters	Sales 1941 (Millions of dollars)	Sales 1947 (Millions of dollars)	Per Cent Gain
		National Chains		
Great A. & P. Tea Co.	New York City	$1,378.1	$2,545.6	84.7%
Kroger Co.	Cincinnati	302.8	754.3	149.1
Safeway Stores, Inc.	Oakland, Calif.	475.1	1,037.8	118.4
		Regional Chains		
American Stores Co.	Philadelphia	157.7	388.6	146.4
H. C. Bohack Co.	Brooklyn, N. Y.	29.6	77.9*	163.2
Colonial Stores, Inc.	Norfolk, Va.	58.1	159.5	174.5
Dixie-Home Stores, Inc.	Greenville, S. C.	12.2	38.4	214.8
First National Stores, Inc.	Somerville, Mass.	174.4	315.9	81.1
Fisher Bros. Co.	Cleveland	27.0	63.5	135.2
Food Fair Stores, Inc.	Philadelphia	34.1	121.8	257.2
Grand Union Co.	New York City	39.6	99.8	149.5
Jewel Tea Co.	Barrington, Ill.	41.7	130.9	213.9
Lucky Stores, Inc.	Oakland, Calif.	5.5	26.0	372.7
Market Basket (Calif.)	Pasadena, Calif.	8.4	13.2*	57.1
National Tea Co.	Chicago	72.2	217.9	201.8
Red Owl Stores, Inc.	Minneapolis	18.2	61.0	293.5
Stop & Shop, Inc.	Boston	26.4†	42.5†	61.0
Winn & Lovett Grocery Co.	Jacksonville, Fla.	10.6	69.9	559.4

* *1946.* † *Years ended June 30.*

have taken some advantage away from the big boys. They can't afford either to break or to fight these laws.

• The Federal Trade Commission has been torpedoing quantity discounts and advertising allowances. Thus, former buying advantages of the biggest chains are no more; all direct buyers are on practically the same basis.

• Increased labor costs or unionization have hit all the big chains. But many local supers are still not unionized.

• **Building Costs**—During the war years there was little building of new supers because of restrictions on construction. Since then, however, about 1,200 new markets have been built, most of them for the regional chains and the independents. This year about 800 more will go up.

Despite the fact that it costs around $500,000 to build, equip, and stock a medium-sized supermarket, the smaller chains and independents are continuing to expand. But financing these new markets is becoming a problem. Most of the chains have borrowed money, or issued stock or debentures during the last two years. Last year, for the first time, the smaller operators began to borrow money, too. Some of them sold stock locally.

A growing practice is to set up a real-estate subsidiary that owns all property and fixed assets. This leaves free the operating company's capital for buying the necessary inventory that today is so high-priced.

• **New Fields**—Supers are adding lots of new lines. Many of them are already in liquor. Proprietary drugs and cosmetics departments are growing fast all over the country. Sometimes a super will get into dry goods or sports and work clothing.

The regional chains and locals are inveterate experimenters. Often their pioneering is later adopted by the big chains.

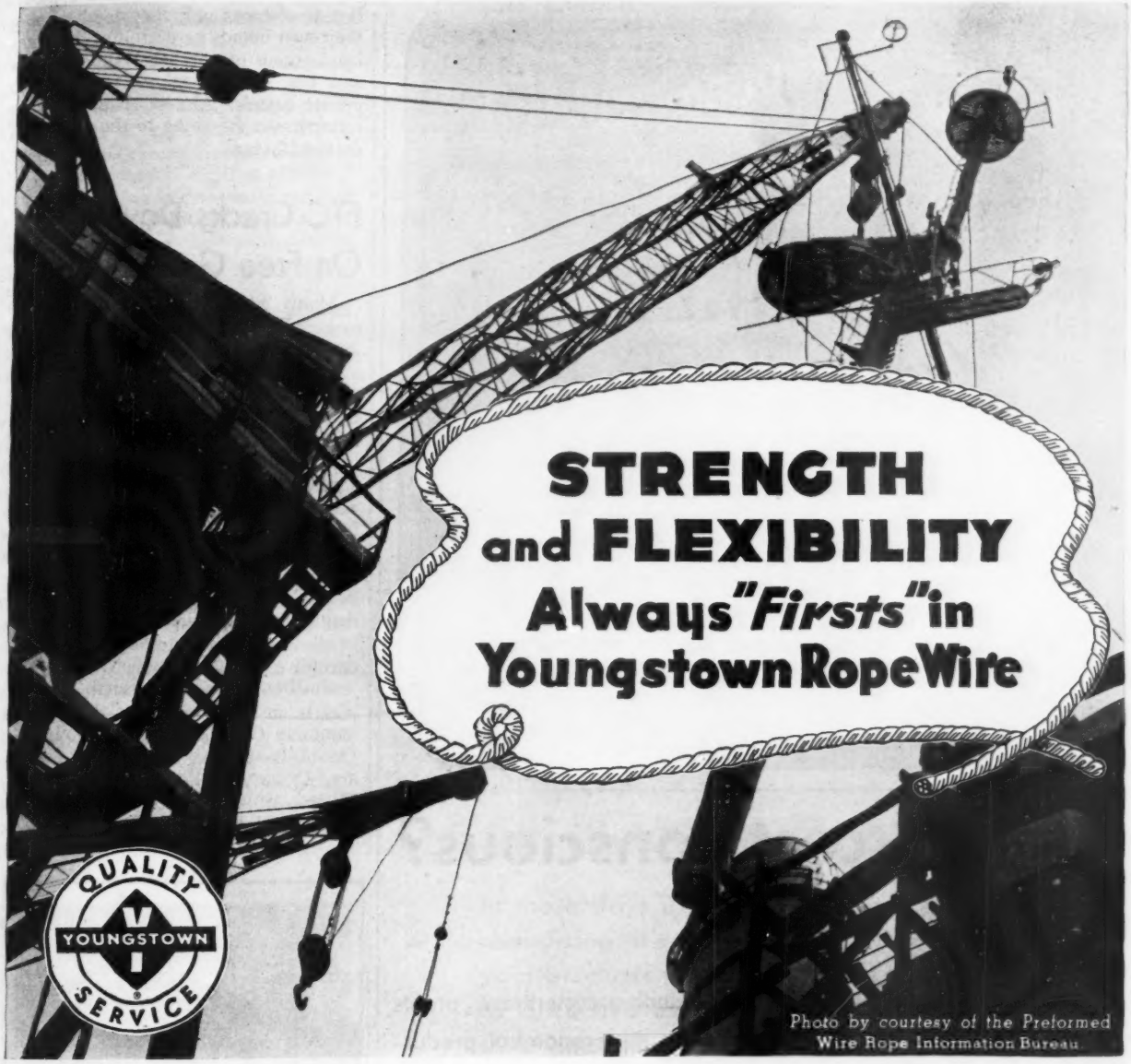
• **Prepackaged Meat**—This happened, for instance, in the sale of prepackaged fresh meats on a self-service basis (BW—Oct.25'47,p62). Armour & Co., Chicago meat packer, reports that there are 178 full and 5,000 partial self-service meat installations in operation. Of the former, 115 are in local supermarkets, 57 in regional chains, only six in national chains. Heaviest concentration of this new business is in Southern California and Texas where the big independent supermarkets are powerful.

Another example: Weingarten's, in Houston, has added a big line of housewares. Joe Weingarten boasts that he sold nine carloads of aluminum cooking utensils last year, 50,000 sets of glassware in a recent special offering—all on a self-service basis.

A third: Packard-Bamberger & Co., Hackensack (N. J.) food super is experimenting with the idea of becoming a self-service department store, too.

• **Controversy**—Some executives of the big chains believe that the independent supermarkets may be merchandising themselves out of the grocery business. The Supers think otherwise. They have heavy investments in their big markets, they say, and must get big daily store traffic to keep them on a profitable basis.

• **One Gainer**—The growth of the regional chains and local supermarkets is a boon for national brand products. True, the national chains carry advertised brands; and one—Kroger—is push-



Neptune's Workshop

IN the shipyards, steel cable must be of proven, dependable quality. It must have plenty of extra strength for continuous lifting of many-ton loads. It must flow over sheaves fast, smoothly, with never a kink. It must have long life.

Much of the steel cable used in "Neptune's workshops" is fabricated from Yolectro High Carbon Rope Wire. Like all other Youngstown wire mill products, this wire is of finest quality steel, refined, rolled and drawn to rigid specifications, to make a product carefully balanced as to strength, flexibility, and toughness.

When you need wire rope, specify that it be woven from Yolectro High Carbon Rope Wire. Then you can depend on your cable's having those essential qualities you want.

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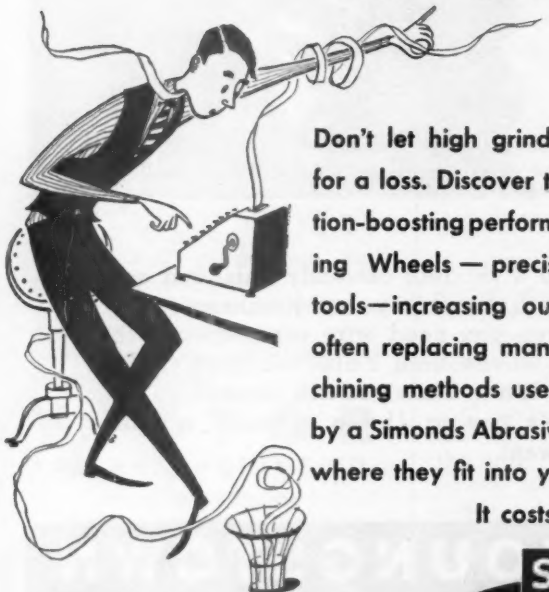

Don't let high grinding costs throw profits for a loss. Discover the economical, production-boosting performance of Simonds Grinding Wheels — precision made production tools—increasing output, cutting costs and often replacing many more expensive machining methods used in industry. A survey by a Simonds Abrasive engineer may reveal where they fit into your operations.

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EXECUTIVES! *Send for free Data Book. Informative . . equips you to "talk shop" on grinding.*

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ing them hard (BW—Oct.11'47,p62). But as often as not, they tend to plug their own brands hardest. On the other hand, none of the local supermarkets and few of the regional chains have private brands. Almost all of their increased sales are going to the makers of national brands.

FTC Cracks Down On Free Goods Offers

Many advertisers who have been making hay with offers of free goods may have to give their sales copy quite a rewrite—or even look around for some new appeals. That's the warning flashed last week by the Federal Trade Commission when it issued complaints of unfair trade practices against four New York book publishers.

• **Big Names**—The lure of free books has long been a mainstay of the big-volume publishers. But now FTC says that the whole idea is illegal; that "free books," "bonus books," "book dividends," and the like are no such thing at all; that such hard-selling phrases are deceptive to the customer.

Further, FTC has issued its complaints against some of the biggest names in the mass-sales book business: Doubleday & Co., Inc., and its subsidiary, Literary Guild of America, Inc., Walter J. Black, Inc., trading as the Classics Club and the Detective Book

An Ancient Facade . . .

Time mellows a lot of things, including rare wines, fine tobaccos, and mahogany end-tables. Time didn't do much, however, for the care-worn stone and interior of Rifkin & Grant's specialty store in Trenton (N. J.). So they did something about it. Last week

Club; Book-of-the-Month Club, Inc.; and Cadillac Publishing Co.

• **January Decision**—These complaints are the first big action taken by FTC on free goods since January when, over the dissents of commissioners Mason and Freer, the commission decided that the word free meant "a gift or gratuity." FTC ruled: You can't truthfully say that a thing is free to the customer if the customer has to buy something else to get the "free goods"—or "is required to perform some service."

Further, said FTC: A manufacturer can't say he is giving retail salesmen something "free" if the salesmen must sell a specified quantity of the manufacturer's product.

• **Tightening Up**—In other words, the January decision said that all "free" offers are illegal unless they refer to outright gifts. Before that it outlawed "free" offers only if they could be proved unfair to the customer by further tests.

For instance, such an offer would have been held illegal even before January (1) if the seller recovered any of the cost of the free goods directly from the immediate transaction; (2) if he substituted an inferior product to cover the cost of the free goods; (3) if he raised the regular selling price of his product for the same purpose.

If free offers passed such tests, they were O.K.'d under the old ruling. So a lot of cases once dropped by FTC are directly in the line of fire today.

. . . Gets a Facelifting

At the Store Modernization Show in New York, Rifkin & Grannick won itself a prize. The store's recent remodeling took first honors in a nationwide contest sponsored by the show. Judges picked the shop's new layout as the best job of local store modernization completed since Jan. 1, 1947.

For Better Protection

In these days of ever-increasing display merchandising, it's more important than ever that your products reach the dealer and consumer as attractive as when they leave your plant.

Your nearest Gaylord Sales Office will show you how Gaylord Boxes can reduce damage claims and help to protect your good will. Call them.

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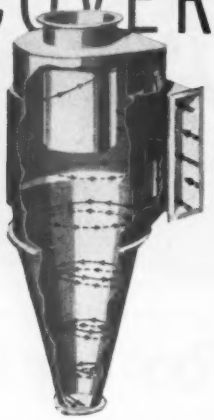
What to do about

dust RECOVERY



Dollars to doughnuts

your attitude is "Show me!" Because the Buell van Tongeren Cyclone is so different its promise of better service on your job is important. Size, shape and proportion give it not only a decided efficiency advantage, but an assured freedom from plugging that is most important. And only the van Tongeren System has the "Shave-Off" which is the "pay-off" in any dust collection apparatus. The facts are marshalled for easy reading in a new 32 page catalog. Write: Buell Engineering Co., 60 Wall Tower, New York 5, New York.

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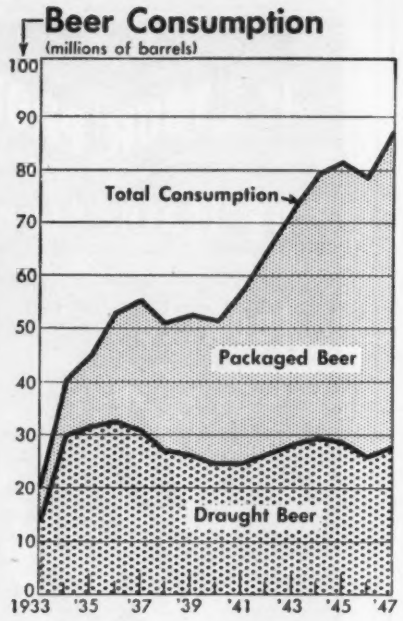
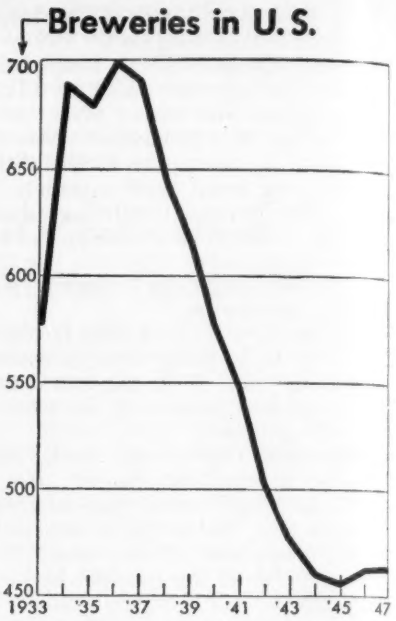
Engineered Efficiency in

DUST RECOVERY





Shifts in Beer Picture

Big increase in packaged beer's share of market has accompanied a sharp drop in number of brewing companies. Small brewers find the going rough, but they have some advantages.

If you are an average American, you drank 18.5 gal. of beer last year. That was more suds than you had consumed in a long time—in fact, since 1914, when you guzzled a mammoth 21 gal. This year the brewmasters hope you'll set a new record, topping even the 1914 figure.

• **Consumption Off**—Chances are you won't quite make it. Beer consumption for the first quarter of 1948 was up only 1.9% over the same period in 1947. Consumption wavered in April, and in May it dropped 10.1% below the previous year, turning the first-quarter gain into a five-month loss of 1.5%.

Observers in the beer trade blame brewery strikes during April and May and a cold, rainy spring for the nose-dive. Now they look hopefully for hot weather to bring a resumption of the upward sales trend (chart, left).

• **Fewer Brewers** — Another, steadier change in the brewing business has been going on for the last decade—a decrease in the number of companies making beer (chart, right). From a total of 700 brewing companies operating in 1936, the number dipped to 464 in 1947. Trade estimates place the number actually in operation today at some 425.

Last week the number of American brewers decreased by one more company: Tivoli Brewing Co., Detroit, paid $1,075,000 for the Aztec Brewing Co., in San Diego, Calif. This makes Tivoli the second brewing company in recent months to buy a spot in the California sunshine. Earlier this year Pabst Brewing Co. bought the lucrative Los Angeles Brewing Co. (BW—May29'48,p84).

• **Nearer the Top**—Last year Tivoli occupied 34th place (in sales) among U. S. brewers, having coaxed its volume from 247,000 bbl. in 1941 to 631,000 bbl. in 1947. The addition of Aztec's 300,000-bbl. plant (which has been operating at 60% of capacity) could move Tivoli 15 to 20 rungs up the sales ladder. Tivoli is financing the purchase with a $1.5-million loan from Mutual Life Insurance Co. of New York.

Tivoli now distributes in Michigan, Ohio, Indiana, New York, Pennsylvania, and West Virginia. By buying Aztec (which will continue to produce "ABC" beer, but with a new "Altes lager" formula), Tivoli is practicing what it has long preached: The best way to conduct a brewing operation is to supply local markets at local prices. Aztec is the only brewery in San Diego county, which has a population of 500,000; and the 4-million-person Los Angeles market is only 128 miles away.

• **Spot for Small Brewers**—The shrinking number of U. S. breweries has prompted many observers to ask: Does this trend signal the end of the local brewer? Will he be replaced by the big

shipping brewers? Most of the beer trade thinks not. There will always be, it says, a place for the small brewer—if he can lick some problems currently plaguing him.

At first glance the small brewer's position looks good. In his own region he still outsells nationally advertised beers. In Omaha, Neb., for instance, three local breweries (Storz, Metz, and Falstaff—a St. Louis brewer with a plant in Omaha) supply 74.5% of the city's beer. The rest of the sales are divided among a dozen or more out-of-state brewers.

• **Darker Side**—The over-all picture, however, is darker. In 1941, the four biggest shipping brewers (Schlitz, Pabst, Ballantine, Anheuser-Busch) sold 15.3% of the national market; last year their percentage had inched up to 17.7%.

Several yeasts are working to cut down the regional brewer's hold on his market. One is his inability to match the big brewers' outlays for advertising and promotion. The shipping brewer counts on his volume and premium price to pay for his campaigns in national media.

What the local brewer saves in transportation costs, he uses to sell his beer at a lower price. At the same time, his fixed costs per unit are much higher because he has a far smaller volume. Thus, he seldom can afford to launch too ambitious an advertising program.

The big brewer can market his byproducts effectively—by turning his surplus brewers' yeast into vitamins and expensive drugs. The local beermaker can't afford the laboratories necessary to exploit his byproducts. So he sells them cheaply for use as a high-protein animal feed.

• **Wartime Mistake**—Many local brewers called another disadvantage down on their own heads through their wartime sales strategy. During the war, brewers were limited in the amount of grain they could use. Some smaller brewers, however, had slightly more lenient restrictions. So they began to take over part of the shipping brewers' market.

To make a fast dollar, they shipped their beer all over the country—and sold it for a good profit as a "premium" beer. Some let the quality of their beer slip. Their biggest mistake, however, was in neglecting their home markets. Now many local wholesalers and dealers who couldn't get the home product during the war years have told the local brewer to pour his suds in the sink—while they handle a competitive brew.

Local brewers have lost one other advantage. In the old days, they used to supply local taverns and saloons with equipment in return for the privilege of being exclusive supplier. Now unfair-trade-practice laws—and customers with tastes whetted by advertising of national

PRIVATE PLANES are
SAFE-FAST-ECONOMICAL
...THEY'RE GOOD BUSINESS

More and more companies and individuals are finding personal or executive planes a sound business investment. In the new 1948 models (the great majority of which are powered by Continental) you'll find a plane with the range, speed and capacity that meets your travel needs. Why not drop in on the Continental dealer at you nearest airport? See the planes he has, take a flight, and talk over this business of flying. Let him show you how the safety, economy and speed of this most modern form of transportation makes it good business to fly.

Continental Motors Corporation
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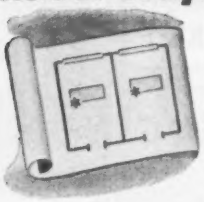
46 YEARS' SPECIALIZED EXPERIENCE BUILDING ENGINES FOR TRANSPORTATION, INDUSTRY, AVIATION AND THE FARM

You Don't Need A Two-Acre Plant To Need TELETALK. Ask A Graybar Dealer



Whether your operations embrace a two-room office, or a two-acre layout like the Alberene Stone Corporation (see opposite page) there is a "Teletalk" installation which will add to the efficiency of every day's work.

Graybar Houses located in 101 key cities will refer you to their dealers, who are fully equipped by training and experience to survey your needs and recommend a "Teletalk" system exactly to meet your requirements . . . all without obligation.

Why not talk to a Graybar dealer to find out . . . today . . . just how much unprofitable hunting and confusion "Teletalk" can eliminate from your business?

If you do not find a Graybar dealer or Local Office listed in your phone book, write to the Graybar address below.

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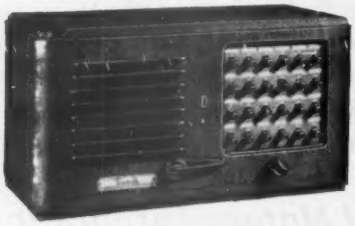


GRAYBAR ELECTRIC COMPANY, INC.
Graybar Building, New York 17, N. Y.

breweries—have pretty much put a stop to this.

• **Research Lack**—Lack of adequate market research also tends to put the local brewer behind the competitive eight-ball. A recent study in American Brewer shows that the seasonal structure of the beer industry is changing. The seasonal fluctuation in packaged beer is shifting faster than in draught beer. Moreover, the summer peak in beer consumption seems to be widening into the late spring and early fall.

• **Draught Beer Off**—There has been a marked shift in popularity from draught to packaged beer in recent years. In 1934, 75% of beer sales were draught; now 68% of all beer is sold in bottles or cans. More and more of it is being sold through grocery stores and other nontavern outlets. Griesedieck Bros. Brewery, St. Louis, reports that its sales of beer in groceries, drug stores, and delicatessens have doubled since the war, trebled since 1935. This nontavern business now accounts for 30% of Griesedieck beer sales.

Some beer men argue that grocery-store beer purchases, being made mostly by women, will tend to favor nationally advertised products. Others claim that the penny-wise housewife will buy a local beer because of its lower price.

• **The Regional Factor**—Despite the catalog of factors working against the regional brewer, there are a couple working for him:

(1) Regional taste is a strong one. Beermakers say that people living in cold climates prefer heavier beers, with a stronger hop flavor and a higher alcohol content. Warm climates favor lighter beers. The big shipping brewer, therefore, is faced with the problem of trying to please everyone with one formula. The regional brewer can suit his brew to the taste of the community.

(2) State laws on bottle sizes, taxes, licenses, etc., also protect the local brewer in many parts of the country—besides California. Ohio, for instance, does not permit beer to be sold in bottles smaller than 12 oz. Goebel Brewing Co., Detroit, which has built up a big acceptance for its 7-oz. bottle in Michigan and neighboring states, is thus denied entry to Ohio in its customary container.

Price also favors the local brewer. Because of freight and advertising costs, the shipping brewer cannot compete pricewise; he is forced to rely on his reputation to keep the customers buying at his premium price.

• **Needed: New Methods**—Regional and shipping brewers have some problems in common. One of the main ones is the old-fashioned approach to their business. Many companies still consider beermaking an esoteric craft; they adhere religiously to the same inefficient methods used by nineteenth century German brewmasters.

The larger breweries are gradually bringing in new production-line methods for turning out the suds. In many breweries the chemist is replacing the brewmaster as top production man. The brewmaster merely carries out the chemist's instructions.

Housing Shortage Aids Admen

Thinking up a new idea for a show window every week is a tough job. And sometimes display men crack under the strain. In Sioux Falls, S. D., last week, an idea-hungry official of Shriver-Johnson department store neared the snapping point, offered window space to apartment-hunting Wayne Pritchard. Pritchard, who had advertised for a place to live, now has one, complete with furniture, furnishings, running water, telephone—and plenty of curious onlookers.

Back in the Virginia Hills, business is streamlined with WEBSTER ELECTRIC Teletalk

REG. U.S. PAT. OFFICE

Two acres of plant reduced to arm's length by the use of Teletalk

There's a "Teletalk" installation to meet the needs of any business — large or small.

Spread over a two-acre area near Scuyler, Va., the office buildings, mill and quarries of the Alberene Stone Corporation once made "hunting down" individuals a time-consuming process.

Now, with "Teletalk" stations located at 23 strategic points, Mill Superintendent R. O. Kirby talks with the sawing room, crating room . . . with every department of the business . . . *instantly*, without leaving his desk.

"Teletalk" is being used every few minutes for a wide variety of questions and answers," Vice President H. M. Matthews says. "It has streamlined our operations tremendously, saved everybody's time and kept people on the job".

"Teletalk" intercommunication is ideally adaptable for out-of-way places covering large areas. Let an experienced "Teletalk" dealer tell you about other companies that have saved by installing this system. There is a "Teletalk" dealer or distributor near you. Look in your classified telephone directory . . . or write us.

Licensed under U. S. Patents of Western Electric Company, Incorporated, and American Telephone and Telegraph Company

WEBSTER ELECTRIC

RACINE WISCONSIN

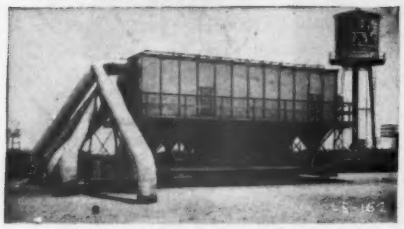
Established 1909

Where Quality is a Responsibility and Fair Dealing an Obligation

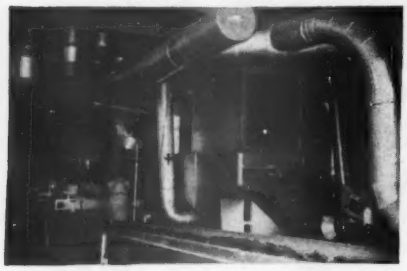
SLY

PIONEERS AND LEADERS IN

DUST CONTROL



SLY Dust Collector on roof at Pinkerton Tobacco Co. plant.

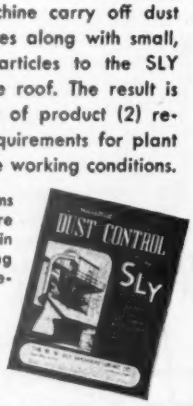


Tobacco cleaning machines with dust pipes to Collector.

● In its modern plant at Toledo, the Pinkerton Tobacco Company cleans and stems tobacco for sweetened scrap chewing tobacco. This would be a dusty operation—"air washing" the tobacco leaves —were it not for the SLY Dust Collector.

Suction pipes connected to each cleaning and separating machine carry off dust blown from the leaves along with small, unusable tobacco particles to the SLY Dust Collector on the roof. The result is (1) improved quality of product (2) reduced manpower requirements for plant clean-up (3) dust-free working conditions.

Sly Dust Control Systems are used to control more than 100 kinds of dusts in all kinds of manufacturing operations. Ask for Bulletin 98 and tell us your dust problem. Our experience with thousands of installations is at your disposal.



THE W. W. SLY MFG. CO.

4749 Train Avenue • Cleveland 2, Ohio

PIONEERS in Industrial Dust Control

Representatives in New York • Chicago • St. Louis
Philadelphia • Minneapolis • Birmingham
Cincinnati • Los Angeles • Rochester • Toronto

MARKETING PATTERN

IN ITS STARKEST sense, marketing is materials handling.

Once it's made, a package of breakfast food is just that. You can't add to its vitamins, its taste, or its crispness. All you can do thereafter is shunt it into the reach of consumers, and urge them to buy it.

Some interesting data is now piling up at the University of Illinois, at Urbana, on marketing as a materials handling proposition. The author of most of it is Dr. Paul D. Converse, professor of marketing. As the result of studies on retail trade areas (BW–Oct.26'46,p79), Converse has devised a general formula to indicate where to push various types of goods–and where not to.

To some extent, Converse's work comes down to statistical confirmation of common sense. But in view of the number of retailers and manufacturers who annually fail, the formula is at least worth looking at before making decisions.

THE CONVERSE FORMULA starts with the following basic propositions:

(1) There are three types of trading centers: One is a "primary center"–usually in a bigger city, and notable for its stock of relatively expensive fashion merchandise. Another is the "secondary center"–usually in smaller towns where stores sell in the popular-price range. The third is the "village" or "neighborhood center" selling for the most part bulk and convenience goods.

(2) There are four categories of consumer goods: fashion; service; bulk; convenience.

(3) There is a two-fold law of retail "gravitation": The bigger a city, the more trade it will draw; but its hold on consumers diminishes in direct proportion to the increase in distance.

SUPPOSE, now, that you are bringing out a line ot washing machines, and that it's your first experience in the field. Should you try to get retail outlets in all three types of trading centers–an expensive business–or stick only to one or two types of area?

By working a sort of calculus on his three propositions, Converse comes up with the following general rules:

If your product is quality fashion merchandise, stick to primary retail centers. Quality fashion goods include high-style clothing, furniture and furnishings, jewelry, gift merchandise, furs. The purchase of such goods requires considerable deliberation on the part of the buyer; so she will be willing to do some traveling to get what she wants. (But if you sell cheap fashion stuff–hosiery, for instance–distribute it everywhere.)

If your product classifies as service goods, sell in both primary and secondary centers. This includes autos, tractors, farm implements, refrigerators, radios, washers, household appliances. Although purchases here involve good-sized outlays, the merchandise is standard. The buyer has no advantage to travel far to get it. And he definitely wants to have a dealer close by for servicing and repairs. Don't hit the very small trading areas, though–there isn't enough business there to make it pay.

If your product is bulk goods, get as wide a distribution as possible. This includes coal, fuel oil, feeds, and building materials such as lumber, brick, and cement. Delivery expenses here are big; hence retail outlets should be close to the consumer. (Makers of bulk goods sometimes avoid the headaches of wide distribution by working through agents or drop shippers.)

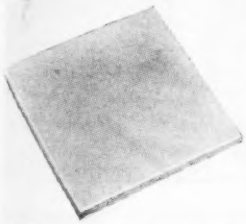
If your product is convenience merchandise, distribute everywhere. This includes gasoline and oil, drugs, groceries, notions, hardware, candy, work clothing, toilet articles. Standardization (including standard prices) is the chief characteristic of these goods. Hence the consumer shops for them as near by as possible. (Here again, since it's a headache to get wide distribution, many manufacturers take a simple way out –they let the wholesalers do the job).

CONVERSE'S yardstick, of course, will work for a retailer as well as a manufacturer. That is, a merchant who is thinking about selling mink coats in Pecatonica, Ill., had better think again; what he should be selling is nylon hose and housedresses.

Office of James A. Hart, Hotels Ambassador, Chicago

FIBERGLAS*

...the firesafe featherweight that soaks up noise



No sounding-board ceiling here! Distracting, nerve-racking noises are absorbed by Fiberglas Acoustical Tile, the lightest weight firesafe acoustical tile made.

Besides having high coefficients of sound absorption, Fiberglas Acoustical Tile delivers a combination of bonus advantages not found in any other material. For example, it is rated "incombustible" under Federal specification tests, and weighs less than a pound per square foot in 1" thickness.

The importance of firesafety in acoustical tile cannot be exaggerated. Besides contributing to the over-all safety of the building, it may affect insurance rates and simplify precautionary measures, such as sprinklers, prescribed by building codes.

Fiberglas Acoustical Tile is easily supported by standard adhesives—stays put. Because it will not swell, shrink, warp or buckle with moisture changes, this lightweight tile is ideal for use with mechanical systems in suspended ceilings. The face and beveled edges of the tile are attractively finished and provide good light reflectivity—an aid to over-all illumination.

Fiberglas Acoustical Board—a long-span unit for use with troffer lighting—provides the same combination of advantages.

Speak to your architect or building superintendent about Fiberglas Acoustical Tile or Board. For name of nearest approved applicator, write Owens-Corning Fiberglas Corp., Dept. 803, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.

OWENS-CORNING

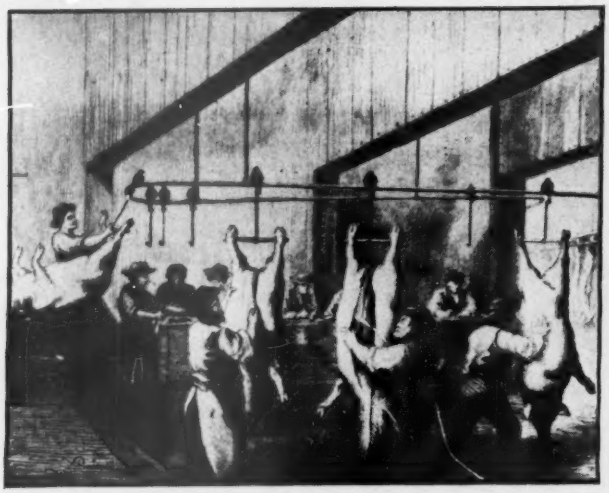
FIBERGLAS

U.S. REG. U.S. PAT. OFF.

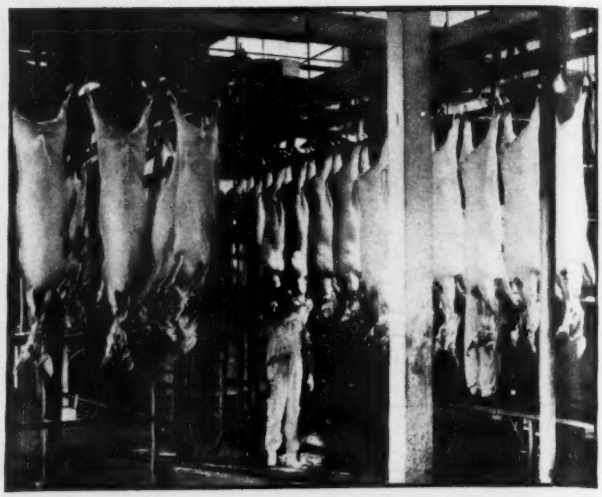
BUILDING MATERIALS

BUILDING INSULATION • ACOUSTICAL TILE AND BOARD • ROOF INSULATION • MEMBRANE FABRIC • ALSO BASIC MATERIALS FOR SIDING, ETC.

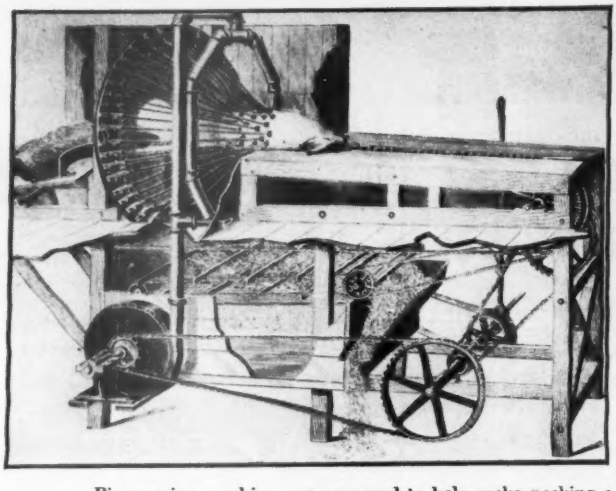
BOOK REVIEW



1870 Modern assembly line began in early packing houses, says book, "Mechanization Takes Command"



TODAY In Swift & Co.'s up-to-date plants, principle of the overhead conveyor is still much in evidence



1900 Pig-scraping machine was supposed to help make packing a completely mechanized process

TODAY Despite machines, some operations at Swift are best performed by skilled human hands

1878 With mechanization of packing, the tin can came into the picture. Wilson & Co. pioneered here

TODAY Swift's Premium slab bacon is nimbly wrapped and tied for easy handling by retailers

RESULT: Ford (Mercury) assembly lines owe their origin to the packing house, still give clews to . . .

Mechanization: Where It Came From

Basic knowledge that makes it possible is age-old. But it took the U. S. to make use of it. Packing, auto industries led.

Assembly lines this week were humming into the last half of a very busy, prosperous 1948.

Amid the pleasant whir, businessmen can take a look at a mammoth (743-page) family album which shows where this enormous parade of machinery began, where it might be going. Compiled by a historian, architect, lecturer, and author—Dr. Siegfried Giedion—the album is entitled "Mechanization Takes Command." Oxford University Press, New York, publishes it at $12.50. It's well worth it.

• **Historical Picture**—Rummaging into history, Giedion reminds the reader that the basic stuff of mechanization is age-old. The wedge, the screw, the wheel and axle, the lever, the pulley, and power from water, vacuum, or pressure were all known to the ancients. But "they possessed an inner orientation, an outlook on life different from ours."

Thus, until around 1700, men used machinery chiefly for (1) warfare, or (2) stunt stuff—a mechanical flutist, for instance, which "possessed lips that moved, a moving tongue that served as the air-flow valve, and movable fingers whose leather tips opened and closed the stops of the flute."

Then came the age of rationalism—the belief in change and progress. Scholars grew curious about movement, about dissection. Those two concepts, thinks Giedion, are the spiritual soil from which the assembly line sprang.

• **U. S. Led**—The United States is the true fatherland of mechanization, for, during much of its early history, America had a shortage of labor. Skilled workers were always scarce. Wages, compared to the rest of the world, were sky-high. So manufacturers tinkered with machines to fill the human vacuum.

The No. 1 successful pioneer in mechanization was Oliver Evans. In 1785 he rigged up a system of belt, screw, and bucket conveyors to create the first automatic flour mill. Everybody said it would flop. Instead, it worked beautifully and Evans got a patent on it. Not long after, sheepish millers appealed to Congress to kill the patent because it was "oppressive." Evans' mill was too much for them, his patent royalties too large.

• **Impetus From Packers**—But it was the packinghouse industry that became the real granddad of mass production. The reason for its parenthood is simple:

Unlike European farmers, the American variety let their pigs roam free in the forests, multiply like mad. In fall, the farmers rounded them up, sent them to the packinghouses. Result: "Masses of highly perishable products had to be processed with all possible haste. This led to a minute division of labor, step by step."

Cincinnati was the major U. S. packing center until around 1860. There some mechanization—notably the overhead conveyor (picture, page 76)—and a high division of labor were firmly established.

• **Carrying It Further**—Then Chicago took over as meat capital. If Cincinnati had a bad seasonal problem, Chicago's was much worse. It drew its raw materials from an ever-widening area as the railroads pushed west. So seasonal peaks were even higher. And the dressed meat had to be shipped to a broader market. Refrigeration was one answer to the problem. Stepping up plant speed was another.

Gustavus F. Swift and Philip D. Armour were the first to bring packing in all its phases to a fast-moving, completely integrated business. Swift gets the major credit from Giedion—in part because of Swift's pioneering in refrigeration. Of him, Giedion says: He "succeeded because of his powerful analytical gifts joined to a boldness for daring construction."

• **Autos' Contribution**—From the packers, the auto industry—with Ford in the van—copied the assembly line. In particular, the carmakers are indebted to the packers for: (1) the use of the conveyor system; (2) division of labor; (3) scientific management.

And the auto makers vastly improved the assembly line, cutting down on labor much more than the packers. This they could do because they were working with metal, wood, glass. The packers' raw material is organic—a carcass. Therefore, eventually a limit is reached as to what a machine can do to it.

• **Field by Field**—In barely a century, mechanization has completely pervaded American work and life. Giedion traces the ramifications extensively. He follows them far in agriculture, in the making of locks, furniture and home furnishings, household appliances—even the bath.

Illustrations are used liberally to show

HACKNEY
STAINLESS STEEL
BEER KEGS

Model 5-520
Made in half-barrel size

NEW

yet

tested

in

design

Here it is! The new Hackney Stainless Steel Beer Keg—sturdy, lightweight, handsome in appearance; and constructed according to proved design principles in continuous use since beer was legalized in 1933.

And look at the features! No pitching required. Light weight—approximately 31 pounds. Foot ring construction makes it easy to grip. Sturdy, stainless steel construction—reinforced with rolling hoops and protection rings of stainless steel—maximum resistance to corrosion and pitting. Fast and easy to clean. Uniform capacity. Quickly identified by embossed name in foot ring. Provides top protection for beer.

See what Hackney Stainless Steel Beer Kegs can do for you. They assure many savings—long, trouble-free service. Send today for the descriptive bulletin.

Pressed Steel Tank Company
Manufacturers of Hackney Products

Hackney MILWAUKEE

Main Office and Plant: 1493 South 66th Street, Milwaukee 14
1397 Vanderbilt Concourse Bldg., New York 17 • 207 Hanna Bldg., Cleveland 15
208 S. LaSalle St., Room 2072, Chicago 4 • 555 Roosevelt Bldg., Los Angeles 14

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

historical developments and trends. (The ones in the chapter on "The Mechanization of the Bath" have to be seen to be appreciated.)

• **Recent Trend**—Since 1920, says Giedion, the march of mechanization has been toward the domestic front. The kitchen has had a thorough going-over, is becoming a virtual factory with fans, toasters, automatic stoves, juicers, mixers.

In turn, that's had an effect on the canning industry: "As the kitchen grows more strongly mechanized, the stronger grows the demand for processed or ready-made foods."

So also, in other phases of personal life, the machine forges ahead—via chain restaurants, movies, radio and television, autos, household appliances.

• **What of the Future?**—And there's no end in sight. In fact, says Giedion, the mere replacement of the human hand by the machine is already getting to be tame stuff. The new frontier is "intervention into the substance of organic as well as of inorganic nature.

"In the inorganic, it is the exploration of the structure of the atom. . . .

"One sphere is already taking clearer shape: one that intervenes directly into organic substance. Here the demand for production delves into the springs of life, controls generation and procreation, influences growth, alters structures and species. Death, generation, birth, habitat undergo rationalization, as in the later phases of the assembly line. The host of unknowns that these processes involve makes uneasiness hard to dispel. . . ."

• **Conclusion**—What, then, of uneasiness?

Giedion takes that up in the short, 10-page conclusion of the book. To the businessman, after being treated to 700 pages of fascinating text and pictures, it may sound vague, lame. Giedion simply says that faith in progress is dead, that "our period demands a type of man who can restore the lost equilibrium between inner and outer reality." It sounds a little like asking for the moon.

• **Personal Background**—Giedion was born in Switzerland in 1894, and studied engineering so he could take over his father's textile mill. Then he changed his mind, decided to be a historian. His studies in the history of art convinced him that there is an inter-relationship between all human activities, that an artist is influenced by the machine, just as the machine is influenced by the artist.

From this concept, he evolved what he calls "anonymous history." This is "the slow shaping of daily life," the chronicling of "how our contemporary life, with its mixture of constituent and chaotic elements, came about." His new work is in that vein.

FURNITURE

MODERN TREND, exemplified by this Phoenix Chair Co. dinette suite, continues to grow as Chicago's summer show features . . .

More Medium-Priced Goods

Manufacturers bring out lines in secondary price brackets for first time since 1942. But filled pipelines keep buyers from splurging on purchases. "Normal" is back again.

Furniture men in Chicago this week and last for the summer show found themselves at the slowest market since the war. Each semi-annual show since war's end has been billed as the first normal postwar market. But this summer the market was highly competitive for the first time.

• **More in Medium**—The top news: There are more medium- and lower-priced furniture lines than at any market since 1942. Manufacturers have not lowered price tags on higher quality furniture. But in many cases they have added new designs to their lines in the price brackets below top quality.

Crowds in the corridors and showrooms at both the American Furniture Mart and Merchandise Mart were noticeably thinner during the first few days than in the recent markets. The July 4 holiday on Monday cut down opening-day attendance. At midweek, more and more buyers appeared, with advance reservations indicating that second week attendance would be heavy. By the end of the show, about 20,000 buyers were expected to have visited the market.

• **Slow Pace**—Buying pace was slow, too. But it picked up slightly toward the second week as buyers finished careful shopping. Retailers were buying mostly promotional items and lower-priced lines to build store traffic and help move heavy inventories of higher-priced goods.

Many retailers at the market had warehouses at home bulging with merchandise. In May, inventories were up 11% over May, 1947, according to National Retail Furniture Assn. reports. They had been built during the spring months by heavy manufacturers' shipments on orders placed in January and earlier. In some areas, inventories were up as much as 20%, retailers said.

• **Dollar Volume High**—Retail dollar volume for home furnishings stores for the first five months of this year was still running slightly ahead of 1947 boom levels. Yet May sales were up only 3% in dollars, down in units. About 50% of retailers reporting to the N.R.F.A. said that their sales through May were ahead of 1947; 10% were even; and 40% reported lagging sales. Appliances and floor coverings accounted for a large part of their volume.

Furniture volume was off slightly for many retailers. But most expected to wind up 1948 at least equal to 1947 in

UNLOADING CASTINGS WITH BAKER TRUCK SAVES WESTINGHOUSE $35 PER CAR!

TIERING IN WIRE CONTAINERS DECREASES FLOOR REQUIREMENTS AT LEAST 50%

Baker Articulated Fork Trucks, used with collapsible wire containers, have reduced a 48 hour unloading operation to 3½ hours. Bracket castings formerly arrived at the Lima Westinghouse plant piled loose in the car, were placed in rigid skid boxes, one at a time, carried to storage, and piled, one at a time in wooden bins. When needed, they were again placed in skid boxes, one at a time, and taken to production.

Today the Baker Truck unloads, stores, and carries them to production *in the same wire containers.* Empty containers are collapsed and returned to supplier.

Additional benefits are:

1. Easier handling for supplier.
2. Demurrage on carriers eliminated.
3. Breakage at receiving end eliminated.
4. Floor storage requirements cut 50%.
5. Inventory taking in storage facilitated.
6. Production speeded by
   a) Avoiding delays in delivery of work.
   b) Work positioned to minimize re-handling.
   c) Cutting waiting time between jobs.

The Baker Articulated Truck operates without difficulty in narrow aisles in storage, and in congested areas in production departments.

• Let the Baker Material Handling Engineer show you how you can make similar savings.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Co.
2164 West 25th Street • Cleveland 13, Ohio
In Canada:
Railway & Power Engineering Corporation, Ltd.

Trade mark Registered U. S. Pat. Off.
Baker
INDUSTRIAL TRUCKS

HAMMERMILL
Cockletone Bond

The letterhead paper that says, wherever received:
"This letter merits your attention"

EVERY MORNING that one of your letters makes a business call, it must compete for attention with all the other letters your customer or prospect receives along with it. More and more of America's business men find that Hammermill's *Cockletone Bond* has the handsome appearance, "heavier" feel, crisp crackle and snap to make their letters stand out—and say unmistakably, "This is a message of importance!"

Examine this fine, new accomplishment of modern papermaking for yourself. Then consider appointing it *your* business representative. After you see its quality, its moderate cost may surprise you.

SEND THIS COUPON NOW . . . for *Cockletone Bond* portfolio showing specimen letterheads and sample book of *Cockletone Bond* in all weights for letterhead use.

Hammermill Paper Company
1455 East Lake Road, Erie, Pennsylvania
Please send me—FREE—*Cockletone Bond* portfolio and sample book.

Name_____
Position_____
Please be SURE to write on, or attach to your *business* letterhead. BW-7-17

LOOK FOR THE *Cockletone* WATERMARK

sales if not in profits. And manufacturers' sales for the first six months were running at the rate of $1.8-billion at factory prices, $250-million above 1947 levels.

Other retailer headaches: narrowing margins, from higher operating costs and heavier promotional efforts; strain on working capital caused by the big, high-priced inventories; accounts receivable up 28% over a year ago.

• **Prices Stay Up**—Prices on furniture at the show remained unchanged from January levels, except for the additions of merchandise in lower price brackets. Only general price increase was in floor coverings, raised about 5% shortly before the market. What many retailers had hoped for was a price break; they lay much of slower retail sales to consumer resistance to high furniture prices. But aside from a few isolated reports of special deals that shaded prices slightly, manufacturers' quotations remained firm.

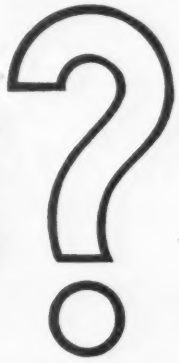
Manufacturers gave two reasons for it: (1) Still-rising wage and material costs; (2) threat of materials shortage later this year when the effect of Marshall Plan and military spending begins to be felt. They hinted at further inflationary pressures that might even send prices higher later this year. Therefore, they concluded, retailers should buy now. They insisted that they were shaving their own profit margins to turn out the lower-priced lines.

• **Modern Trend**—Style trends seen at last January's market toward modern, small scale, and dual purpose furniture continued strong (picture, page 81). Light woods and bold colors appeared everywhere. Better design and quality in the lower price brackets was evident. The quality deterioration that marked wartime and earlier postwar furniture was practically gone. Supplies in all lines were ample. Only shortages were in floor coverings.

Traffic in appliance showrooms at both marts was leisurely; there were few new models. Manufacturers still talked in terms of allocations to distributors on major appliances; but a few admitted that sometimes dealers had to be pushed to take their full allocations. Immediate deliveries were offered on all lines except some refrigerators. Industry leaders are convinced that 1948's total volume will equal 1947, with output at peak levels. But they agreed that the days of order-taking are gone. An aggressive, competitive selling approach is now needed to move all items but a few appliance lines.

• **Appliance Prices Up**—Appliance prices generally were up 5%-10%, reflecting the latest round of wage increases. Manufacturers predicted further price rises soon if steel prices go higher. In radio lines, only television continued to attract much attention.

How Do You Stand With Chicago's Most IMPORTANT Million ???????



Time and experiment are both great teachers.

Over the years, advertisers have made countless experiments with media here in the Chicago market.

From this costly trial and error process—this sorting over and sifting down—advertisers have *learned*. Experiment has translated itself into *experience*. And this experience gives to the Chicago Daily News a *commanding position* as a *commanding advertising medium!*

So commanding that, for example, the Daily News in 1947 carried 2,742,304 lines of grocery advertising—a MILLION AND A QUARTER more lines than the next competitive daily newspaper.

The demands of grocery manufacturers and grocery retailers put an advertising medium to a severe test. Both demand rapid rate of turnover. Both demand volume. Both look to Chicago's most IMPORTANT million for dollars and cents response.

And they get it as the result of persistent advertising in the Daily News! Persistent, because profitable!

How do you stand with Chicago's most IMPORTANT million? That's the No. 1 sales-question in Chicago. Ask a Daily News representative to tell you more about the reader-friends of this newspaper—these reader-friends who are Chicago's most IMPORTANT million!

CHICAGO DAILY NEWS

For 72 Years Chicago's HOME Newspaper

JOHN S. KNIGHT, *Publisher*

DAILY NEWS PLAZA: 400 West Madison Street, CHICAGO

NEW YORK: 9 Rockefeller Plaza
LOS ANGELES OFFICE: Story, Brooks & Finley, Inc.
624 Guaranty Building

DETROIT OFFICE: Free Press Building
MIAMI HERALD BUILDING, Miami, Florida

SHOE "SUPERMARKETS" build business for Shoe Corp. of America, controlled by . . .

THE SCHIFF FAMILY, including (extreme right) Robert W. Schiff, founder and president, and (left to right) his son, Herbert, a vice-president; his nephew, Jack, executive vice-president; and his cousin, Edward, secretary and assistant treasurer

Family Shoe Firm Expands

Shoe Corp. of America, fourth-largest retail shoe chain, has gone into manufacturing, too. It plans to sell stock to the public to buy a new plant and a tannery, modernize its stores.

The shoe trade has been singing the blues for several months. Consumers have had their backs up over prices and have cut down on their buying.

In the midst of this uneasiness, Shoe Corp. of America—integrated maker and distributor of all types of shoes—has decided to go to the public for some new money.

Stockholders met this week end to pass on a management proposal for a new stock issue—25,000 shares of cumulative preferred to be offered to the public at about $100 a share. The issue has already been registered with the Securities & Exchange Commission.

• **Experience**—Before deciding on this step, Shoe Corp. had a fling at three other financing methods. In late 1946 it sold $3.3-million of 15-year 3½% debentures direct to a group of life insurance companies. At the end of 1947, it had over $1.9-million of bank loans outstanding.

The company has taken part in several sell-lease realty deals since the end of the war. In December, 1946, it sold the Columbus (Ohio) building containing its executive offices and a warehouse to a realty company controlled by interests close to the management—and leased it back for 50 years. Last year it sold a Maine shoe factory to a similar realty company on a similar basis. And this year it sold another Maine shoe factory to Penn Mutual Life Insurance Co. and leased it back—this time with an option to repurchase it at the end of five years.

• **Where the Money Will Go**—Proceeds of the new issue will go for several purposes:

(1) The company wants to add 16 more stores and three department-store shoe concessions to the 321 stores and department-store units it now operates in 32 states and the District of Columbia. Initial cost: $600,000.

(2) Several stores and the Columbus office building will be remodeled. Costs: $986,000 (the company spent $570,000 for remodeling last year).

(3) A fourth shoe factory will be purchased. Cost: $335,000.

(4) The company is negotiating for a tannery in Lynn, Mass. If the deal goes through, the purchase price will be some $200,000, and another $500,000 will be needed immediately for working capital.

• **Shoe Factory**—The factory that Shoe Corp.'s management wants to buy is the Waynesboro (Pa.) Shoe Mfg. Co., maker of children's shoes. Shoe Corp. has long been a Waynesboro customer. In 1946 Waynesboro's owner decided to sell out, and gave Shoe Corp. the first chance to buy.

But Shoe Corp. couldn't use its surplus funds for this purpose because of restrictions in its bank-loan agreements. So a group of the corporation's officers bought the factory with $250,000 of their own money. And the corporation agreed to buy it from them when funds became available. Price: original cost plus Waynesboro's net earnings from the time the officials bought it to the date they sell it to the corporation. Through March, 1948, these earnings came to $72,000. No dividends have been declared or paid.

• **Stockholders' Suit**—A group of stockholders has a suit pending now in U. S. District Court in Columbus, charging that the officers committed a breach of

WILLYS-OVERLAND TRUCK NEWS

THE LINE THAT CUTS HAULING COSTS ADDS ANOTHER MONEY-SAVING TRUCK

Now, the 'Jeep' Panel Delivery takes its place in Willys-Overland's great line of 'Jeep' Trucks—the trucks that cut hauling costs.

Feature by feature, the 'Jeep' Delivery was engineered to be the new criterion for measuring long service and low cost-per-mile. It is powered by the 'Jeep' Engine, world-famed for getting extra miles from fuel, for endurance and maintenance economy. The distinctive body is functionally designed to provide standard space, to achieve low weight with exceptional sturdiness, and to give easy access to wheels and engine. It is built to pay a dividend in more thousands of usable miles.

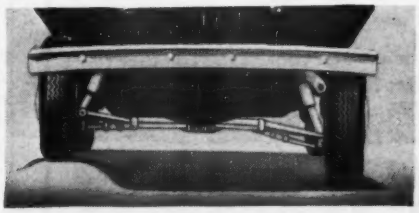
We invite you to see and compare the 'Jeep' Panel Delivery, on display at Willys-Overland dealers.

THE 'Jeep' PANEL *Delivery*

WILLYS-OVERLAND MOTORS, Toledo, Ohio

MAKERS OF AMERICA'S MOST USEFUL VEHICLES

The 'Jeep' Panel Delivery is highly maneuverable in traffic, and takes narrow driveways and sharp turns with ease. 104-inch wheelbase — turns around in a 35-foot street.



Independent front-wheel suspension gives the 'Jeep' Delivery a smoother ride on rough streets, makes steering easier and lengthens tire life. Wheels maintain nearly vertical position as they pass over bumps and holes.

'Jeep' Delivery parks in small spaces —overall length, 175 in. Note common-sense fenders, designed to avoid damage from high curbs and to provide easy accessibility of wheels.

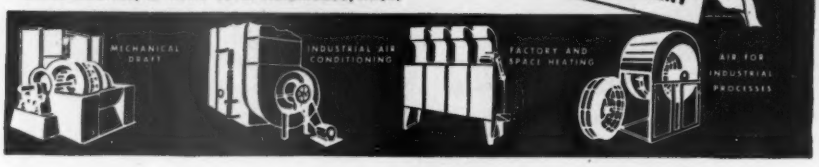
CLARAGE FAN IN St. Louis

Throughout the country there's a rapidly growing preference for the high-grade service delivered by Clarage equipment.

Take, for example, St. Louis . . . there you will find Clarage installations at Union Electric, Monsanto Chemical, American Can, Sears-Roebuck, National Lead, and Missouri Cement, to mention a few.

Wherever air handling and conditioning is required — St. Louis or your own home town — **Clarage has a long-time reputation for top-notch performance.**

Call in a Clarage application engineer... consult your phone book for local branch office address, or write us at Kalamazoo, Mich.



"He's been 'On the Ball' ever since we got the G-E Water Cooler."

For all-day efficiency, give your employees plenty of cool, refreshing water from General Electric Water Coolers. It costs so little to operate these efficient water coolers . . . and they last for years and years. *General Electric Company, Air Conditioning Department, Section W8867, Bloomfield, New Jersey.*

GENERAL ELECTRIC
Water Coolers

their management duties in buying Waynesboro for themselves.

The officers have answered that they did not profit in any way from the transaction, and that the purchase was actually made for the benefit of the corporation when the corporation itself was unable to act.

• **Sales to Competitors**—The tannery at Lynn, when and if it is purchased, will supply Shoe Corp. with about 40% of the type of leather it uses most. But not all of the tannery's output will go to Shoe Corp. About 25% of the company's shoe production today is sold to outsiders—including competitors. And the same policy will be followed with the tannery.

Sale of part of its production to competitors is one of the key points of Shoe Corp.'s operating policy.

"When you buy your own production, you don't know whether you're doing all right or not," says Robert W. Schiff, Shoe Corp.'s president. "But when you sell to outsiders, you let them pass judgment on whether you're operating correctly. As long as they keep on buying, you know you are."

• **Conformity**—Another key point of the company's policy is to have its stores fit in well with their communities. For this reason, it operates two entirely different types of stores (besides department-store concessions). In low-income neighborhoods, the stores are of the "outlet type" (actually a kind of shoe-supermarket). The shoes are piled on counters or set out on racks; since this is the most economical way to sell, these stores can charge low prices (picture, page 84). In higher-income neighborhoods, the stores are of the conventional type.

Another result of the desire to fit in with the community: Shoe Corp. stores, unlike most other chains, are not standardized in either name or appearance. Hardly any of them operate under the Shoe Corp. name. Many of them are called Schiff Stores (Shoe Corp. changed its name last December from the Schiff Co.). Most others keep the names they had when bought by Schiff.

• **Founder**—Robert Schiff, now 62, opened his first shoe store in 1913 at Marion, Ohio, in partnership with Samuel Bruson, wholesale shoe salesman. It was a success. But their next venture wasn't, and the story is one of Schiff's favorites today. The partners opened a store one Monday in Seymour, Ind. The first and only customer that day showed up at 5 P. M. On Tuesday there weren't any. On Wednesday there weren't any until 5 P. M. again—when the Monday customer brought in his shoes and asked for a refund. The partners tossed in the sponge.

By 1918 some of Schiff's brothers and nephews had come in, and they operated a total of 10 stores. It wasn't long un-

Make Hay all Summer

in bowling alley or bank

the way

Rockefeller Plaza Outdoor Ice Skating Pond

makes ice all winter

If hot weather puts a crimp in your business, put your worries on ice *now* by installing Worthington air conditioning.

You'll get the extra business—extra working efficiency—that come from summertime comfort . . . and you'll be happy that your Worthington equipment costs less, needs less attention, lasts longer. Why?

Balance is the answer, just as in ice skating. Balanced *system*—all interrelated machinery made (not just assembled) by *one* manufacturer.* Balanced *units*—for smoother, quieter operation. And—a balance between Worthington's 50-year engineering experience and the local "know-how" of your nearby Worthington distributor.

Ask *him* to explain further why *balance in the air* means *more worth in Worthington.* He's listed in Classified Telephone Book. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J.

**Worthington makes more of the vital innards—compressors, condensers, engines, turbines, pumps—than any other one manufacturer.*

AS-28

WORTHINGTON

AIR CONDITIONING AND REFRIGERATION

No More Pipe Troubles

After 40 years underground you can dig up Orangeburg Pipe and find it good as new. Does not crack or break — and the TAPERWELD* COUPLINGS prevent root growth.

Install this trouble-free pipe and *save money.* Orangeburg *non-perforated* is for house-to-sewer and septic tank connections — drainage and other non-pressure uses. Orangeburg *perforated* is for Septic Tank Beds, Foundation Drains, Land Drainage. Ask for Orangeburg by name.

• ORANGEBURG MANUFACTURING CO., INC., ORANGEBURG, N. Y.

*Reg. U.S. Pat. Off.

NO ROOTS
Taperweld* Couplings resist root-growth.

NO LEAKS
Tight joints prevent leakage.

NO CRACKS
No chips, no breaks.

ORANGEBURG The Root-Proof Pipe

NEW!

Do Your Heavy Lifting EASIER FASTER SAFER

● With the Manzel Hydraulic Floor Crane, one man lifts heavy machinery, bales, boxes, drums, crates with a few easy strokes. He guides them thru narrow aisles, around obstructions, indoors or outdoors, with bulls-eye steering accuracy.

Widespread front wheels and rear casters. Rough floors or sharp turns cannot tip the crane. A single handle doubles as a steering shaft and pumping lever. Twin cylinders give steady lifting power with minimum effort. Capacities 1 and 2 tons.

Write for full information

MANZEL FLOOR CRANE

Manzel INC.

333 BABCOCK STREET
BUFFALO 10, N. Y.

til Schiff sold out to Bruson and went to Columbus to start over.

• **New Company**—The Schiff Co. was incorporated in 1919. Most of the stockholders were members of the Schiff family. The biggest outsider was Leo Federman, department store operator.

Federman contributed $40,000 on condition that the new company open shoe departments in some of his stores. Thus, Schiff started to develop the chain of department-store units that was to form the nucleus of what is today Shoe Corp. of America.

• **Growth**—By the end of 1920, the company operated six units, whose sales that year totaled $327,593. Year by year, the company grew—by gradually adding stores of its own, and by absorbing existing stores and small chains.

Last year its 321 units had sales of $33.3-million. That was 16% higher than 1946, and represented a 9½% rise in unit sales. So far this year, sales are up 12% in dollar volume and about 8% in unit volume; Shoe Corp. believes it is one of the few retail shoe companies in the country to show an increase in unit sales in the past two years.

• **New Angle**—The company first expanded into shoe manufacturing in 1946. In July it bought the Norrwock Shoe Co., of Norridgewock, Me., maker of women's welt shoes. Under Schiff management, Norrwock has since built two other plants in Maine.

In point of retail sales, Shoe Corp. of America is now the fourth-biggest shoe chain in the country. In addition, it owns a 51% stock interest in the third-biggest—A. S. Beck Shoe Corp. (Edison Bros. is first; Melville Shoe Corp., which operates the John Ward and Thom McAn chains, is second.) The dollar volume of Beck and Shoe Corp. combined is the largest in U. S. shoe retailing.

• **"Little Merchants"**—Schiff thinks one of the biggest reasons for this success is the company's personnel policy. Each store manager and his immediate superiors are responsible for the success of that particular store. Schiff says the company is, thus, an organization of "little merchants."

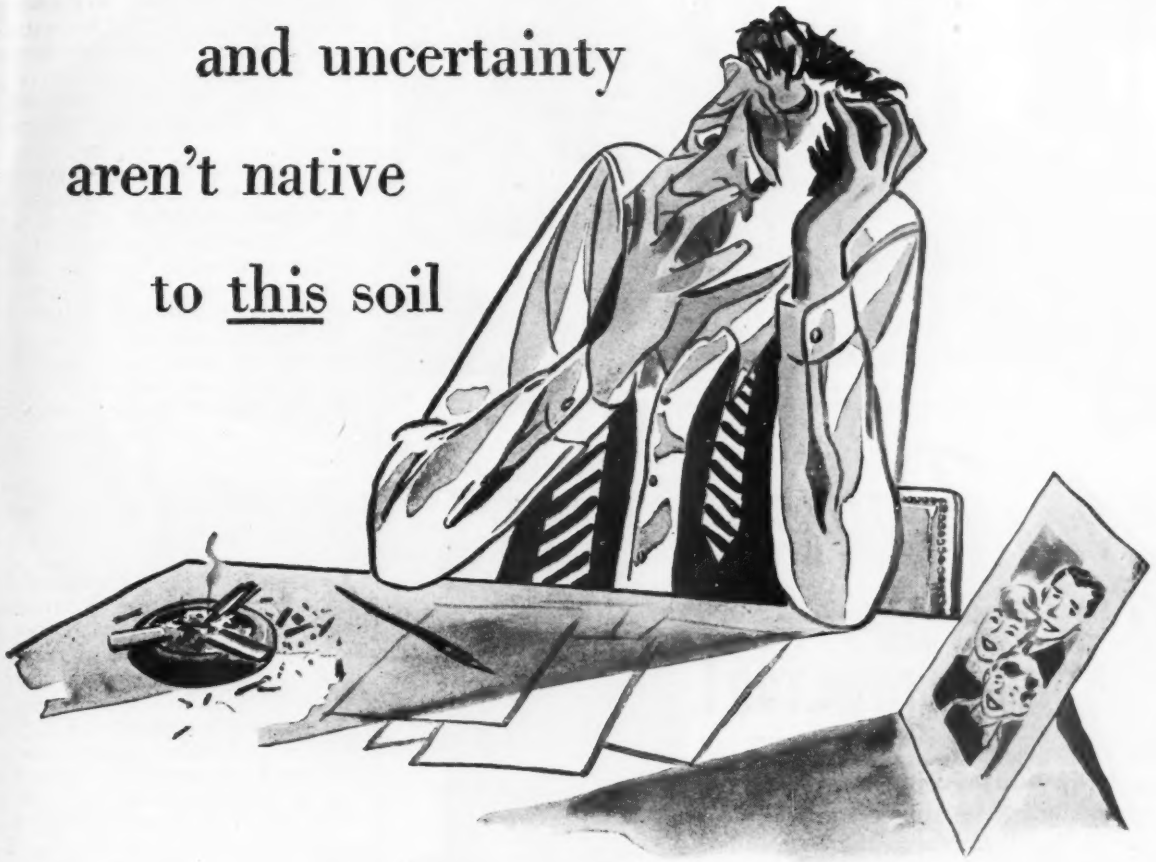
Since early in its history, the company has set aside 20% of each store's profits. Of this, 10% goes to the store manager, 5% each to the district manager and the supervisor. These bonuses run from $500 to $4,000 a year for the store managers, a little more for the district managers, and up to $49,000 a year for the supervisors (there are only six).

• **Responsibility**—These men are responsible for the buying for their stores. Actual buying is done by the company, of course, but, Schiff says: "They tell us what to buy; we don't tell them."

The company thinks this local autonomy is the major reason why its unit sales have risen at a time when the

Fear

and uncertainty aren't native to this soil



People came thousands of miles across an unknown ocean, in frail cockleshells of boats, to settle this country. Brave folks, *durable* folks. They spoke a dozen languages, but they had just one goal—*freedom,* and the chance to carve out a future for themselves and their children.

They weren't looking for security, and anyway, they didn't find it here. They found only savages, wild beasts and a wilderness; but they had courage and vision, the will to work and the willingness to take a risk—and that's all it took. That's all it *ever* takes.

Any man who's afraid of the future today ought to take a long look at America's past. He'd see that security is only to be found in growth and increase—in producing more things and better things at lower prices—in giving the best possible day's work for a good day's pay. There is no other way to keep a nation great, and its jobs and way of life secure.

COLUMBIA STEEL & SHAFTING COMPANY

Specialists in the cold finishing of steel bars and shafting

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Manufacturers of precision cold finished seamless steel tubing

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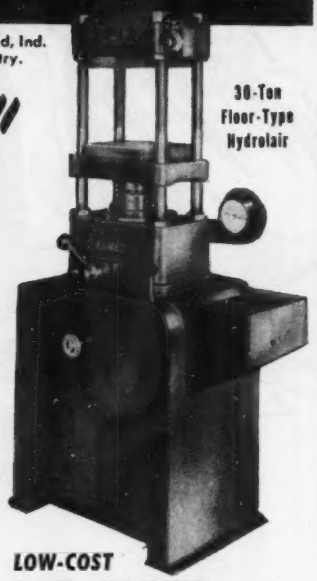
Five of seven Elmes Hydrolairs at the Richmond, Ind. plant of Belden Mfg. Co., wiremaker for industry.

"Air Power" MAY BE YOUR ANSWER, TOO!



30-Ton Floor-Type Hydrolair

With the accent today on good production *at a price,* it pays to keep posted on equipment that cuts costs. In small power-presses this means Elmes Hydrolairs—the hydraulic presses that have *neither* pumps nor motors.

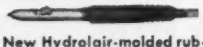
"EXACTLY WHAT WE NEED"

"We're getting *excellent results,"* says R. K. Schelke, Engineer at Belden Mfg. Co., where seven Hydrolairs speed top-quality output of molded plugs and sleeves. "Hydrolairs are fast, easy to operate, and highly dependable—they're *exactly* what we need."

CUT PRESSURE-PRODUCTION COSTS

Hydrolairs are quiet, compact, simple to install and to move. They take their power *entirely* from the shop air line—consume no power when closed. Bench and floor types. Capacities to 50 tons. Hot plates and other accessories, optional. *Elmes Engineering Works of American Steel Foundries, 214 North Morgan St., Chicago 7.* Distributors coast to coast.

LOW-COST ELMES HYDROLAIRS SAVE MONEY ON MANY JOBS



New Hydrolair-molded rubber sleeves replace former manually assembled premolded covers on Belden plug-board cords.

This new Belden one-piece rubber plug, Hydrolair-molded around electric power cord, replaces the former complex plug that was held together by rivets.

Ask for Bulletin 1036. It tells the whole story.

ENGINEERED BY ELMES

Good Hydraulic Production Equipment Since 1851

shoe business generally has fallen. The store managers are in the best spot to know just what the public wants; the company doesn't insist on arbitrary minimum-quality standards. So if a manager of a local store finds that his customers want a $2 pair of shoes, the company gets him the best merchandise it can at that price. It doesn't hold out for standards that can be met for no less than $3.

• **Family Control**—Management and control of Shoe Corp. (and hence of A. S. Beck) is virtually a Schiff family affair. Robert Schiff is president, treasurer, and a director. Ten of the other 15 top officers and five of the other six members of the board are Schiff's relatives—two brothers, one brother-in-law, one son, one son-in-law, three nephews, one nephew-in-law, and one cousin. One of the nephews is also president of Beck.

The 16 officers own, among them, about 35% of the company's 445,500 shares of Class A common stock. This is the only class of stock outstanding; it's listed on the New York Curb Exchange.

• **Tighter Control?**—The officers' 35% stock holding represents pretty certain working control, as corporations go. But the Schiffs have a plan in the works which would give them almost complete certainty of control for the future.

Last November the officials proposed, and the stockholders ratified, a new issue of Class B common stock. It would consist of 600 shares (compared with 445,500 Class A shares outstanding)—but it would have the right to elect five directors, compared with Class A's seven. The new shares would be sold only to persons active in the company's management—at a price comparable to the market price of the Class A stock, currently around $15 a share.

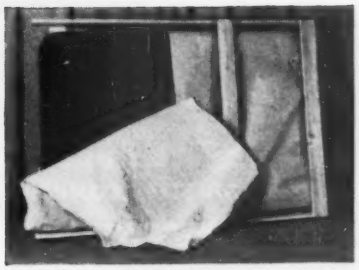
• **Small Cost**—Thus, the plan would require a cash outlay by the officers of less than $10,000. In return, they would be able to elect the five Class B directors outright—and, by pooling their 35% of Class A stock, to elect at least two of the Class A directors. Thus, they would control an absolute majority of the board.

The Class B stock has not been issued, however. The U. S. District Court at Columbus has issued an injunction pending outcome of a stockholder's suit. Stockholders charge that the plan is a device through which the Schiffs, by an investment of only $10,000, seek to perpetuate themselves in control of the $16-million company.

• **Answer**—In reply, the Schiffs have said that (1) it was under their management that the corporation attained its present size and success, and (2) the corporation's welfare would best be served by a continuation of the management under which it has prospered.

Or, in simpler words: "Why not?"

Air-flown flowers arrive garden-fresh. That's because they're insulated with protective KIMPAK. Insulation Packaging Photo courtesy of United Wholesale Florists of Calif., Inc.



Surface Protection – Table top. Photo Courtesy Drexel Furniture Co.

Flotation Packaging – Dental Model. Photo Courtesy Kramer Dental Studio.

Kimpak Float Packaging*

cradles your products... protects your profits

Don't let shipping damage claims eat away your profits! Cushion every product you package with soft, strong KIMPAK* creped wadding. For KIMPAK provides low-cost protection from shipping room to journey's end.

It is amazingly versatile. Clean and grit-free, KIMPAK safeguards a wide variety of items... from delicate glass to hardy machine parts. Keeps its resiliency under continous shock and vibration. And light in weight, compact, it adds little bulk to shipments.

KIMPAK is popular with packaging personnel. It is pleasant to handle, clean, and takes up a minimum of storage space. What's more, fleecy-white KIMPAK enhances the sales appeal of any product – it's that good looking.

You may choose from a number of thicknesses, backed or unbacked, liquid-repellent or liquid-absorbent – sheets, rolls, or pads. In fact, there is a specification of reliable KIMPAK to meet every requirement of the Four Basic Methods of Interior Packaging . . . Surface Protection, Flotation Packaging, Blocking and Bracing, and Absorbent Packaging.

Free booklet on better packaging methods. Call or write your local distributor for the illustrated KIMPAK book on how to improve your present packaging. He is listed in the Classified Directory. If you prefer, simply mail this coupon.

KIMBERLY-CLARK CORPORATION
Creped Wadding Division, Neenah, Wis.

Please send me the free KIMPAK booklet that tells how I may better my packaging methods.
BW-748

Name .....

Firm .....

Type of Business .....

Address .....

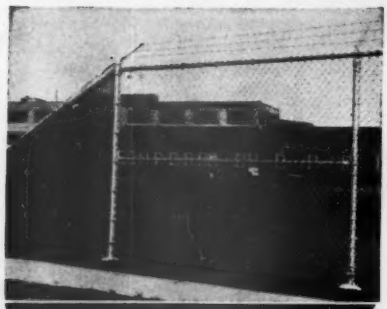
City, Zone, State .....

Kimpak
A PRODUCT OF Kimberly Clark
REG. U.S. PAT. OFF. & FOREIGN COUNTRIES
CREPED WADDING

*T. M. Reg. U. S. & Can. Pat. Off.

FOR MAXIMUM PROTECTION
PITTSBURGH
CHAIN LINK FENCE

Your property, your equipment, are protected against thieves, meddlers, and the curious when Pittsburgh Chain Link Fence is on the job. Also the coming and going of your own employes is regulated which in itself can save you money both in time and material. We have been planning and erecting good fence for many years—our experts will be glad to give you advice and a cost estimate. Write to Pittsburgh Steel Co., 3249 Grant Building, Pittsburgh 30, Pa.



PITTSBURGH STEEL COMPANY

Automatic REZNOR
GAS FIRED UNIT HEATER

JUST 3
MORE MONTHS
UNTIL HEATING
SEASON

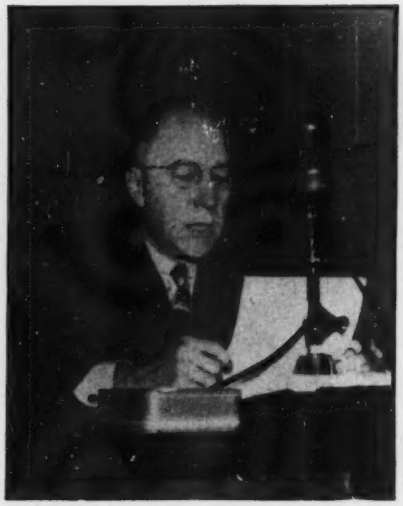
INSTALL REZNOR HEATERS

Next winter you'll appreciate a decision you make *now* to modernize with Reznor "automatic" unit heating. Make the installation before the pre-winter tie-up of tradesmen. Avoid the inconvenience of heating-season changes. Reznor gas fired units solve heating problems for any size buildings—from the corner drug store to the mammoth factory.

IT CIRCULATES AIR
ECONOMICALLY AUTOMATIC

REZNOR
Gas fired unit heaters
A SIZE FOR EVERY NEED
REZNOR CO.
MERCER 3, PENNA.
Gas Heaters Since 1888

NO BOILERS NO STEAM LINES
NO FUEL STORAGE NO FIRE TENDING



ATF's president, Thomas Roy Jones . . .

. . . Puts his voice on the record . . .

. . . To tell his employees how the company did financially

Annual Report Gets Wide Hearing

For three years, ATF, Inc., has been experimenting with some lively techniques to achieve 100% readership for its annual report to employees. The Elizabeth (N. J.) company figures that it has come pretty close to that goal because of an unusual technique used for its 1947-48 fiscal message.

• **Sound Effects**—To get ATF's message across, president Thomas Roy Jones spoke directly to his 3,680 employees in their own homes. He did it with phonograph records.

With every record, mailed to each employee's home, went a printed annual report. Theme of the package: "How did we do last year?"

The cost to ATF ran about 10¢ a record. But before it laid out any cash, ATF found out that 82% of its employees owned or had access to a record player.

• **New Methods**—ATF, parent company of American Type Founders, Inc., has been experimenting with brighter financial reports ever since it found that only 35% of its employees read the conventional kind. Through Claude Robinson's Opinion Research Corp. of Princeton, it has been trying to find out just what ATF employees want to know about the company's business and to keep checking on how well the reports get over. Cartoons and a simplified report upped readership of ATF's 1947 report to 92%.

The company has found that the everyday language used in simplified reports has had another effect: It has bolstered the employees' confidence in management's message.

51 "NATIONAL SECURITY CLAUSE" PLANTS

For Sale or Lease NOW

The offering of these properties under the provisions of the National Security Clause indicates their essential nature and sound worth.

1

Top-quality Properties

Each of these 51 facilities is a well-constructed, modern property—built during the war years, some equipped with the finest of machinery, tools and fittings. Some are general-purpose plants suitable for ready adaptation. Included, among others, are 12 aircraft and engine factories, 1 petroleum refinery, 4 chemical processing plants, 17 steel foundries, fabricating plants and forge shops, 9 shipyards and 2 brass and 5 light metals facilities.

2

At Favorable Locations

Some of these plants are located in the Atlantic seaboard states; many throughout the humming industrial midwest, south and southwest; others up and down the Pacific coast . . . in large cities and small towns . . . at deep-water ports; strategic locations, every one. Required raw materials are close at hand, profitable markets nearby, transportation facilities excellent and necessary utilities all available.

3

National Security Provision

These properties are offered for sale or lease with provisions for the national security, whereby the Federal Government retains dormant rights to utilize the facilities for production under Government contract. In the event that this dormant right is exercised, the Government will consider the qualifications of the buyer or lessee to carry out such contracts. This may well prove a great advantage to you!

4

Write, Wire, Phone

These properties are offered for sale or lease, in whole, for continuing operation. Write, wire or phone for specific information and for necessary bid forms and helpful advice on how to bid. This advertisement is not a basis for negotiation. War Assets Administration reserves the right to reject any or all bids. Transfer of title will be subject to Executive Order 9908 relative to fissionable materials.

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FINE PLUMBING FIXTURES
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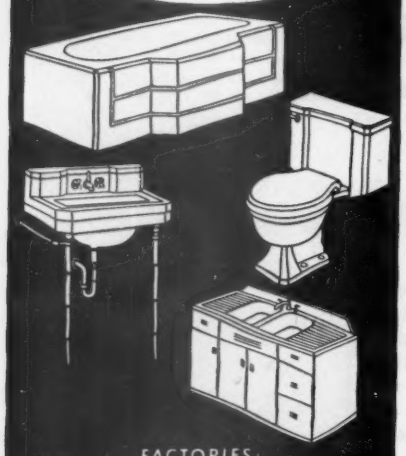

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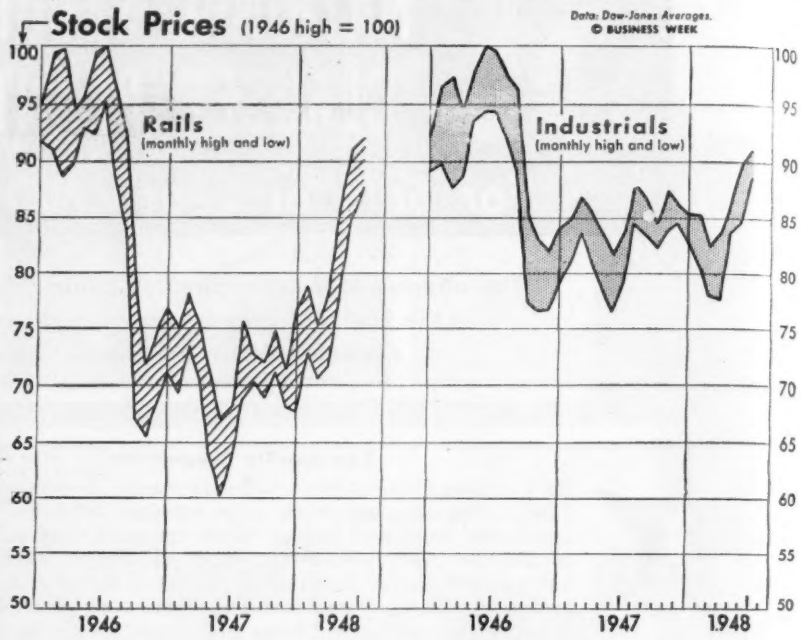

Rails Snap Back Farthest

Their comeback, to four points of the 1946 peak, beats that of industrials. Rate boosts are big reason; recession postponement helps. But some feel rails' climb is too good to last.

If you like legal and political paradoxes, try this one:

For the better part of the past two months, every railroad in the country was owned by the U. S. government—in theory, anyhow. The Army seized the rails on May 11 to forestall the threatened strike of the three operating brotherhoods. It did not return them to private ownership until July 9, after the wage and working-rules dispute had been ironed out (page 20).

• **Best Performers**—And yet, throughout most of this two-month period the rail stocks were generally the best performers on the big board. While the industrials have been flopping around disconsolately, the Dow-Jones rail average has pushed on up into new high ground. At the moment, it is only four points or so short of its 1946 bull-market high.

• **Reasons**—Nobody knows just why the rails should be the ones to lead the parade now. But one thing to remember is that the rails took a far worse beating than the industrials in the 1946-1947 bear market (chart). At the bottom of its decline the rail average was down about 40% from its peak. The industrials never lost as much as 25%.

A more important factor is the way railroad earnings prospects have been improving. The various rate boosts granted by the Interstate Commerce Commission have helped offset rising wages and other costs. Last week the ICC gave the eastern railroads a 17% hike in passenger rates. And this week word got out that a final decision on the roads' request for a 30% freight-rate increase was due any day. ICC already has approved interim increases in this case that add up to about 21.5%.

There's another point: When the market was betting on an early postwar

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	164.9	165.9	168.7	155.8
Railroad	52.5	51.9	50.8	45.3
Utility	74.2	74.2	73.9	76.8
Bonds				
Industrial	99.5	99.2	98.3	103.3
Railroad	89.2	89.3	90.1	89.5
Utility	96.1	95.8	96.1	103.7

Data: Standard & Poor's Corp.

recession, rails stocks were especially hard hit—because heavy fixed costs make the carriers quite vulnerable to a drop in traffic. So when the market changed its mind about the business outlook, the rail stocks got a correspondingly big boost.

• **The Buts**—In spite of all this, there are plenty of bulls who feel uneasy about the rails.

As these traders figure it, the rails have had a long rise since last February. Sooner or later they are bound to run into trouble. And if the market is looking to them for leadership, the trouble may spread through the rest of the list.

Also, rails, with their regulated rate structure, are likely to take a licking if inflation gets out of hand. And the inflationary forces look alarmingly strong.

Bull Market Scope: Now and Then

How does the present bull market stack up against the dozen that have already been written off as 20th Century history?

As you look at the table below, you will see that there's no formula that will fit the life pattern of bull markets generally. Each runs its own course. Some have died when less than six months old. Others have flourished for six years or more. And the gains they have produced in the Dow-Jones indexes have ranged from 16.6% to 387.2%.

So far, Wall Street's current bull market looks puny alongside some of its older brothers. But it has its points. It has been in existence since mid-May, 1946. That makes it about 65 weeks old now—longer-lived than three of the 12 others that the Street has known since 1900. During those 65 weeks, the Dow-Jones rail average has advanced almost 58%. That's better than rail stocks did in the whole lifetime of six earlier bull-market moves.

Industrial

	Dow-Jones Index	Gains Points	Gains %	Weeks Lasted
June 1900	53.68			
to				
Sept. 1902	67.77	14.09	26.2	117
Nov. 1903	42.15			
to				
Jan. 1906	103.00	60.85	144.3	115
Nov. 1907	53.00			
to				
Nov. 1909	100.53	47.53	89.7	105
July 1910	73.62			
to				
Sept. 1912	94.15	20.53	27.9	114
Dec. 1914	53.17			
to				
Nov. 1916	110.15	56.98	107.2	100
Dec. 1917	65.95			
to				
Nov. 1919	119.62	53.67	81.4	98
Aug. 1921	63.90			
to				
Oct. 1922	103.43	39.53	61.9	59
July 1923	86.91			
to				
Sept. 1929	381.17	294.26	338.6	318
July 1932	41.22			
to				
Mar. 1937	194.40	153.18	371.6	243
Mar. 1938	98.95			
to				
Nov. 1938	158.41	59.46	60.1	32
April 1939	121.44			
to				
Sept. 1939	155.92	34.48	28.4	22
April 1942	92.92			
to				
May 1946	212.50	109.58	117.9	214

Railroads

	Dow-Jones Index	Gains Points	Gains %	Weeks Lasted
June 1900	72.99			
to				
Sept. 1902	129.36	56.37	77.2	115
Sept. 1903	88.80			
to				
Jan. 1906	138.36	49.56	55.8	121
Nov. 1907	81.41			
to				
Aug. 1909	134.46	53.05	65.2	90
July 1910	105.59			
to				
Oct. 1912	124.35	18.76	17.8	114
Dec. 1914	87.40			
to				
Oct. 1916	112.28	24.88	28.4	93
Dec. 1917	70.75			
to				
Oct. 1919	82.48	11.73	16.6	94
June 1921	65.52			
to				
Sept. 1922	93.99	28.47	43.5	64
Aug. 1923	76.78			
to				
Sept. 1929	189.11	112.23	146.3	317
July 1932	13.23			
to				
Mar. 1937	64.46	51.23	387.2	244
Mar. 1938	19.00			
to				
Jan. 1939	34.33	15.33	80.7	40
April 1939	24.14			
to				
Sept. 1939	35.90	11.76	48.7	25
June 1942	23.31			
to				
June 1946	68.31	45.00	193.0	211

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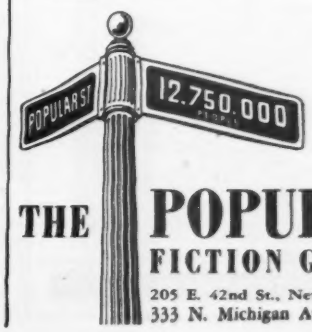

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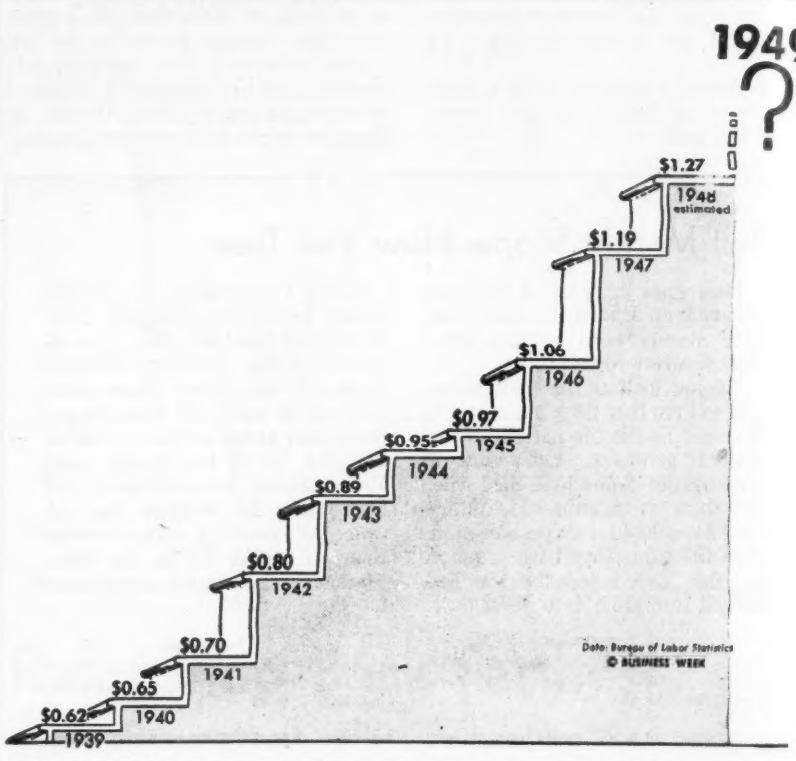

WAGE RATES in manufacturing had a 10-year rise. Question for industry is . . .

Whither Your 1949 Wages?

Up, up, and up has been the course of the nation's wage rates. Is there a fourth, fifth, and sixth round in the cards? Or will next year see a leveling off, or reversal of the trend?

Wage boosts in the steel industry will climax the third (1948) round. Their significance outruns their economic effect. They represent a capitulation by America's bellwether industry to forces powerful enough to reverse carefully considered management policy.

It was less than three months ago—after a long session of soul-searching—that the U. S. Steel Corp. said "no" to a union demand for more money. As between wage increases and price cuts, Big Steel said that it had chosen to cut prices. That would be its contribution to "an early stabilization or reduction in the cost of living" (BW—May1'48,p96).

• **Take It or Leave It**—Philip Murray had to take it on the Corporation's terms. Big Steel's contract with the C.I.O. provided that if no interim agreement on new wages could be reached, the 1947 schedules would run through 1948. The corporation was in an enviable, apparently unassailable, bargaining position. Employers all over the nation were heartened by its stand, allowed themselves to hope that the brakes were at long last being applied to a 10-year wage spiral.

They were further cheered by almost daily evidences of what was taken to be organized labor's waning economic power. Strikes in meat packing, communications, and manufacturing seemed to be getting nowhere. Judge T. Alan Goldsborough was giving John L. Lewis his comeuppance. And the Taft-Hartley act was being hailed as an ace in the hole for any real showdown which might develop on the labor front.

• **The Line Gives**—Then came the United Auto Workers strike against Chrysler. By the form sheet, there was some reason to expect that Chrysler might get a settlement around the 8¢ an hour it had offered before negotiations were broken off. But General Motors proceeded to make its spectacular 11¢—plus-cost-of-living-adjustments contract with U.A.W. What followed was as if

a house of cards had been caught in a high wind.

Chrysler settled for 13¢. The electrical manufacturing industry—which had taken its cue from steel, and was vociferous in its determination to resist pay hikes—followed suit. Rubber quickly came into line. Lewis crashed through with what is perhaps the coal miners' most favorable contract in their history.

Steel, its plants in centers where wages were rising and facing a growing discontent among its employees, could not stand against the trend. Except for some isolated pockets in the mass production industries, the sweep will shortly be complete. Hundreds of smaller employers, following the leaders, will ape the big settlements before another month is out. And the third postwar wage round will be over.

• **What Are the Chances?**—Will it be the same thing all over again next year?

At this writing, the answer would seem to be "Yes." Three primary forces are behind the 1948 wage increases. They are (1) the rising cost of living; (2) the sustained demand for industrial products; and (3) a tight labor market. A fourth factor, the organized strength of labor, played its part; but, as the steel industry can testify, it was not the threat of a strike which forced it to reverse its position.

• **Continued Pressures**—Thus far, there is no real indication that 1949 living costs will be below their current levels. Since March, the price index has shown a strong tendency to rise higher.

There is no indication, with the European aid program and rearmament superimposed on the domestic economy, that the 1949 demand for industrial products will decline much.

And, as the labor market feels the weight of the draft and new armament production, the 1949 manpower outlook will change from a present rough balance of supply and demand to sharp, perhaps critical, shortages.

These three factors, added to a 10-year record of accomplishment, will keep the labor movement strong. And while it may feel it faces real hazards under the Taft-Hartley act and under a Republican administration, a decline in its power great enough to nullify its economic force is hardly a reasonable expectation for the next few years.

• **More of the Same**—Unless some yet unrevealed and unpredicted development alters 1949, the same pressures which forced wage increases this year will be operating then. And unless such a development appears, the 1950 and 1951 outlook could be much the same.

The natural law, that everything which goes up must come down, can be usefully applied only when something real exists to suggest that the forces of ascension are played out. Only then is it possible, with probity, to say when.

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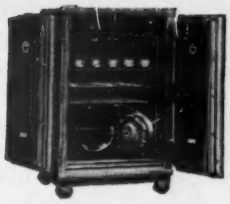

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How Do Your Office Salaries Compare?

New data from eight cities shows range of weekly pay for familiar white collar jobs in six industries across the country.

Comparisons of office salaries over the country have always been tough to make.

One reason has been that white-collar work hasn't been as intensively "job analyzed" as the bench and assembly-line occupations. This has left some mystery about just how similar the duties of the clerical employee in Office A are to the worker's in Office B. That disability in comparisons remains.

But the other reason for the limited knowledge about average office-work pay on a more-than-local scale was the inadequacy of authoritative information on the exact size of the clerical paycheck. That lack has now been repaired.

The Bureau of Labor Statistics has surveyed six industries in eight representative cities. It has determined what employers in these industries are paying men and women office workers in 24 commonly found occupations.

You can get more detailed information from BLS than appears in the table below. Business Week lists only the highest and lowest weekly salary found for each occupation in all cities, by industry. It should help an employer to know whether he is out of line.

CITY RANKINGS

Figures on office salaries were gathered from eight cities—in the East, West, North, and South. Average weekly pay for all jobs studied in each city stacks up this way:

(1)	Seattle, Wash.	$43.48
(2)	New York, N. Y.	41.52
(3)	Denver, Col.	38.52
(4)	Dallas, Texas	38.23
(5)	Buffalo, N. Y.	37.58
(6)	Atlanta, Ga.	37.52
(7)	Milwaukee, Wis.	36.44
(8)	Boston, Mass.	35.49

		All Industries		Manufacturing		Wholesale Trade		Retail Trade		Finance, Ins. and Real Estate		Transportation, Communication and Other Public Utilities		Services	
		High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Billers (billing machine)	Male	$45.26	$35.87	$47.79	$37.21	$44.93	$39.93	.....	.....	$49.30	$49.30	$39.43	$34.45	.....	.....
	Female	41.20	33.74	42.59	34.16	42.99	32.91	$38.30	$29.68	42.42	33.20	42.18	34.92	$35.25	$31.92
Billers (bookkeeping machine)	M	40.34	40.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	F	44.12	34.46	46.97	38.56	43.88	38.37	34.50	30.33	40.19	34.16	41.92	39.82	.....	.....
Bookkeepers (hand)	M	64.43	52.96	68.16	52.12	67.55	48.00	54.38	46.53	62.86	47.26	67.47	57.54	62.58	59.14
	F	55.11	43.98	57.35	45.30	58.37	42.10	47.36	36.91	51.11	40.35	56.12	46.55	56.10	46.51
Bookkeeping Machine (Class A*)	M	57.79	48.58	45.87	45.87	64.63	53.96	.....	.....	54.91	43.55	.....	.....	.....	.....
	F	48.14	41.87	58.88	43.00	47.23	38.95	41.43	41.12	48.66	38.71	57.70	42.28	40.17	40.17
Bookkeeping Machine (Class B*)	M	52.04	37.37	45.10	42.99	57.64	35.01	.....	.....	42.90	34.75	38.04	38.04	.....	.....
	F	41.13	33.52	44.69	37.32	44.88	35.78	39.47	32.63	38.74	28.80	42.43	36.76	41.85	33.68
Calculating Machine (Comptometer)	M	44.00	44.00	44.02	44.02	47.58	47.58	.....	.....	42.37	42.37	.....	.....	.....	.....
	F	42.37	35.22	43.80	35.95	43.75	34.41	39.50	31.09	42.41	33.09	45.56	36.97	43.55	35.46
Calculating Machine (other)	M	43.67	33.95	.....	.....	.....	.....	.....	.....	40.72	33.06	.....	.....	.....	.....
	F	39.95	33.71	44.64	34.14	42.49	31.65	41.17	25.96	35.73	32.95	41.61	36.96	.....	.....
Clerks (accounting)	M	57.55	43.99	57.33	43.70	56.32	39.10	47.01	44.38	54.70	37.92	59.55	46.50	49.85	40.30
	F	42.80	36.24	46.09	37.24	44.61	35.90	38.94	29.60	42.51	32.20	45.92	37.86	44.58	33.88
Clerks, file (Class A*)	M	46.16	46.16	40.18	40.18	49.60	49.60	.....	.....	45.03	45.03	.....	.....	.....	.....
	F	42.52	32.90	46.68	35.53	44.05	31.97	36.24	36.24	40.74	32.56	48.84	31.34	37.34	33.16
Clerks, file (Class B*)	M	32.71	28.31	38.34	30.68	33.99	33.99	.....	.....	29.54	26.47	32.55	32.55	32.81	32.81
	F	33.55	28.81	39.47	29.91	34.81	27.03	31.17	25.63	32.64	25.40	38.47	31.43	32.62	27.64
Clerks (general)	M	54.24	42.00	60.29	37.02	50.42	39.67	.....	.....	53.35	45.66	54.24	43.81	42.77	42.77
	F	43.95	34.94	50.60	36.31	42.95	33.80	41.77	30.24	44.27	35.15	53.19	37.54	40.53	28.55
Clerks (order)	M	55.52	43.22	59.47	46.45	55.18	42.62	.....	.....	59.79	49.81	43.48	43.48	.....	.....
	F	42.10	34.63	45.60	37.75	45.62	35.24	38.52	29.91	44.56	44.56	40.26	36.36	41.75	41.75
Clerks (payroll)	M	58.44	44.83	59.87	42.48	50.81	43.19	50.15	50.15	62.42	55.47	53.93	44.69	58.34	58.34
	F	46.57	37.73	45.59	36.81	46.15	37.22	42.96	33.80	54.29	38.54	47.90	36.50	46.36	39.28
Clerk-typists	M	46.14	35.15	47.95	34.62	41.01	37.73	.....	.....	36.13	32.92	40.96	40.96	46.29	46.29
	F	39.37	31.79	42.74	33.49	39.39	29.51	34.77	27.91	37.77	28.41	40.04	33.50	39.84	29.42
Office boys		32.98	28.09	35.81	25.70	40.25	23.41	30.30	25.25	32.22	24.63	34.09	28.81	30.57	25.93
Office girls		33.19	27.51	36.01	26.41	32.12	27.18	32.79	25.13	31.87	25.87	34.67	28.08	28.74	26.44
Stenographers (general)	M	50.05	42.88	50.17	50.17	52.82	52.82	.....	.....	44.24	44.24	.....	.....	48.62	48.62
	F	45.62	37.31	46.45	38.36	46.55	34.14	41.53	31.50	45.49	33.01	45.12	38.43	44.32	33.01
Stenographers (technical)	F	50.92	40.95	49.46	40.05	47.36	40.55	.....	.....	49.94	40.91	67.07	44.65	49.71	49.71
Switchboard (operators)	M	51.58	51.58	53.64	53.64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	F	42.56	34.94	44.26	37.99	44.79	32.77	37.90	29.04	42.14	30.13	45.01	36.15	37.28	33.11
Switchboard-operator-receptionists	F	41.00	34.80	44.70	33.80	42.48	34.12	35.12	28.17	38.30	31.97	41.06	33.14	41.69	29.93
Transcribing machine operators (general)	F	42.32	34.65	42.27	34.31	44.79	33.29	.....	.....	40.82	31.64	39.92	33.49	37.54	36.21
Transcribing machine operators (technical)	F	43.36	35.00	.....	.....	49.57	38.25	.....	.....	43.33	41.96	.....	.....	.....	.....
Typists (Class A*)	M	45.27	45.27	46.00	46.00	.....	.....	.....	.....	39.47	39.47	.....	.....	.....	.....
	F	41.36	36.57	43.61	35.00	43.24	39.20	38.50	34.62	41.43	31.76	48.05	37.63	42.65	36.71
Typists (Class B*)	M	39.94	37.77	.....	.....	38.21	38.21	.....	.....	36.42	36.42	36.64	36.64	.....	.....
	F	35.64	29.99	37.77	31.51	36.23	27.32	33.79	28.00	34.27	26.21	39.87	32.37	36.32	27.39

** Class A, in each case, involves greater responsibility and more complicated procedures than does Class B.*
Data: Bureau of Labor Statistics

Success Story at { Hooton Chocolate Co. Newark, N. J.

PROBLEM: The first step in making chocolate is grinding up the cacao beans. The grinding generates frictional heat. But, as with so many other similar operations, the most efficient grinding temperature is the highest possible consistent with the prevention of burning. The trick is to maintain that optimum grinding temperature by regulating the flow of cold water to the mill's cooling jacket.

The Hooton Chocolate Company of Newark, N. J., who make fine chocolate coatings found they could not safely approach this optimum temperature with manual controls on their chocolate mills. The maintenance of quality standards demanded lower grinding temperatures, which in turn meant alarmingly low production as well as further increasing the already high cost of chocolate.

SOLUTION: Hooton called in Taylor, whose Field Engineers worked on the problem in cooperation with Bramley Machinery Corp., manufacturers of the mills. They installed on each mill a Taylor Fulscope Indicating Controller which regulates the flow of cooling water *automatically*. During the entire grinding process, these Fulscopes now maintain the required temperatures needed to prevent burning without retarding the process by running too cool.

RESULT: Grinding time has been cut about sixty percent, which, in effect, has increased the plant's production capacity. Mr. Albert G. Enman, Hooton's Factory Manager, says: "*The installation of the Taylor Fulscope Controllers has greatly increased the efficiency of these Bramley Mills. We are showing savings in time and labor, as well as having reduced to zero the loss due to overheating.*"

MORAL: The current price of chocolate more than justifies the cost of these Taylor controls to Hooton. Bramley has added another sales advantage by assuring its customers that their grinders will run at top efficiency.

The moral to you, we hope, is plain. Whether you (1) make processing equipment or (2) process almost anything from chocolate to gasoline, Taylor can probably show you how to increase production efficiency right smack in the face of today's rising costs. Why not find out? Call your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

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THE LABOR ANGLE

WHAT ABOUT THE LONG-RUN effects of events so far this year on the collective-bargaining front?

We would list five developments as being of more than passing importance.

FIRST is the fact that almost all industry has made—or will make—wage increases in 1948. There should have been nothing surprising in that (BW—Mar.20'48,p108).

Its significance lies in its being the tenth of an unbroken series of annual pay boosts (chart, page 96). The habit, the expectation, of a wage raise every year grows firmer. What happened this year makes a full decade of precedent. The consequences of that for the future are profound.

SECOND is the partial success of industry in breaking away from the pattern—or, perhaps more accurately, the uniform—wage settlement. That achievement has been overrated in many quarters. The end of the "follow the leader" era has been prematurely hailed. The fact is that, with only a few exceptions, 1948 wage increases vary within a narrow range.

But while the pernicious pattern habit wasn't killed this year, it was at least injured. There was progress toward the day when the circumstances of the individual company will again be a large factor in wage negotiations. Many employers will consider this something to be followed up vigorously in 1949.

ANOTHER development which has an enduring interest is the new General Motors-United Auto Workers contract. Its automatic wage adjustment mechanism, based on the cost-of-living index, is far from being a new thing. What is new is that the formula was accepted by the C.I.O.'s largest and most militant union.

What is sought here? A flexible wage structure which will stabilize management-union relations without being too costly. If it works, it will be widely copied. If it doesn't, it puts the hex on any such related arrangements which may in the future be proposed by unions or management.

The fourth and fifth developments, the effects of which will outlast the year, did not occur in labor-management conferences. One may be found in a decision of the U. S. Supreme Court; the other in a ruling of the National Labor Relations Board.

WHEN THE U. S. SUPREME COURT held that the wage-hour act required "overtime on overtime" pay, it set hundreds of employers to rereading their labor contracts. If those contracts did not, in effect, specifically provide that overtime pay was the premium payment required by law, the employer was right to be scared. Some lawyers are advising employers that they are now liable for overtime pay required by the law, in addition to the overtime provided in the contract without reference to wage-hour act provisions.

When they had drafted those contracts, precious few employers had anticipated what a difference a little phrasing might make.

The full effect of the court ruling will be blunted by Wage-Hour Division regulations. But a lot of contracts are going to be changed at the first opportunity. And there will be more careful contract writing in the future.

FINALLY, there is the NLRB's action in the Inland Steel and W. W. Cross & Co. cases. In the first of these, the board held that the Taft-Hartley act requires employers to bargain with unions over retirement and pension programs; in the second, that the law compels bargaining on group health and accident programs. Both of these rulings may be overturned by the courts. If they are, these two employers will be freed from the necessity of exposing carefully devised employee-benefit programs to the rough and ready horse trading that goes on in management-labor negotiating.

But even if Inland and W. W. Cross win extended legal battles, collective bargaining has been given a powerful push into largely unexplored territory. That development—flowing from a law which many employers thought would simplify their labor problems—may well prove to be this year's most important legacy to the future.

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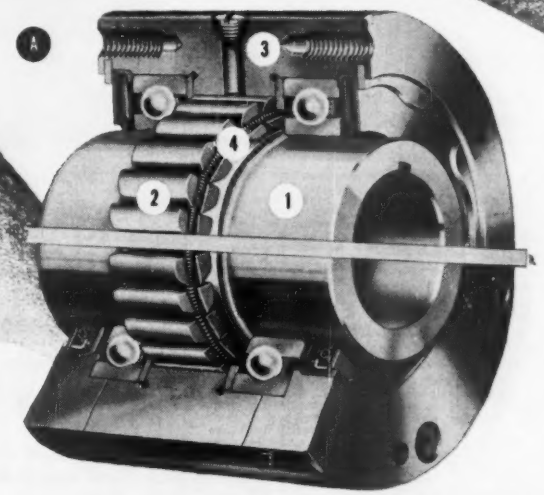

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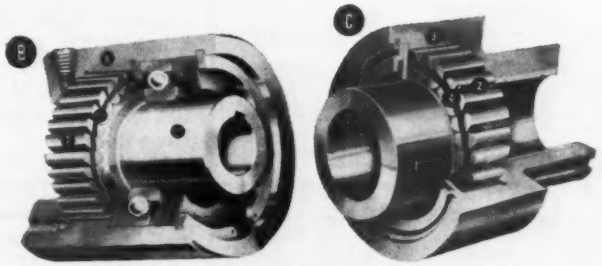

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This book shows you how to make the most of employee contacts—to lift their morale to maximum level and to cut union trouble to the minimum. It outlines a direct, practical method for eliminating the causes of labor trouble . . . helps you set up a special organization within your business to iron-out the wrinkles in employee-employer dealings.

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Wildcats Tamed

Cheery note on the labor front: Strikes in violation of contract, once a constant problem for both management and union officials, are getting rare. Their return is unlikely.

The tide of wildcat strikes is ebbing.

The "unauthorized stoppage" used to be a constant management headache. During the war the phenomenon reached daily proportions. Unions sometimes found it advantageous, sometimes acutely embarrassing. It seemed to defy control. Today, it seems well in hand—an accomplishment which testifies to an increasing maturity on the labor front.

• **Headquarters**—Although all industry was menaced, Detroit was wildcat-strike headquarters. It was also headquarters of the lusty, undisciplined United Auto Workers (C.I.O.).

Both being in the same place was more than a coincidence. Walter Reuther and his right-wing crowd wanted to move into the U.A.W. office. R. J. Thomas and his left-wing allies wanted to keep them out. At stake were positions of great power in the labor movement. And their followers battled in the automobile plants.

• **The Score**—No one ever had a complete count of the wildcat strikes in the Detroit area. Some individual companies kept track of their own. But even they never tabulated a lot of the 10-minute or half-hour quickies which afflicted them like a plague. The records of one large auto manufacturer tell the story:

Year	Wildcat Strikes	Man-hours Lost (000 omitted)
1943	138	792
1944	253	1,267
1945	195	1,989
1946	91	492
1947	100	753
1948 (first half)	14	38

An expert estimate is that the auto industry's strikes in violation of contract are now down to one or two a week—from a peak of around 15 a week. Obviously, the problem still exists; but it's manageable. And in this, Detroit's experience is paralleled in other industrial centers.

What accounts for the change?

• **Reuther Victory**—First, Reuther decimated his opposition. The Reutherites are solidly in the saddle in the U.A.W. office; they have scattered the leftists in most of the plants. And Reuther runs a more disciplined organization than Thomas did. He says, "No contract violations will be permitted," and the members get the idea he means it.

• **No More Curbs**—Second, the bargaining situation has changed. During the

war years, unions felt stymied behind emergency regulations that the leaders could not officially avoid. "Unauthorized" strikes by the rank-and-file were a way to evade the curbs.

The end of these wartime emergency restrictions (such as the Little Steel formula) has almost automatically blanked out the wildcat strike which got "under the table" support—or even its inspiration—from the union leaders. Despite the vehement denial of the leadership, it is probable that most wildcats of the past got this kind of "unofficial" blessing from above. Today, when a union wants some new concession, it can seek it openly at contract termination time.

• **Taft-Hartley Law**—Third, a new element—the Taft-Hartley act—makes unions financially liable for breach of contract. (Michigan's Bonine-Tripp law parallels the federal statute in this respect.)

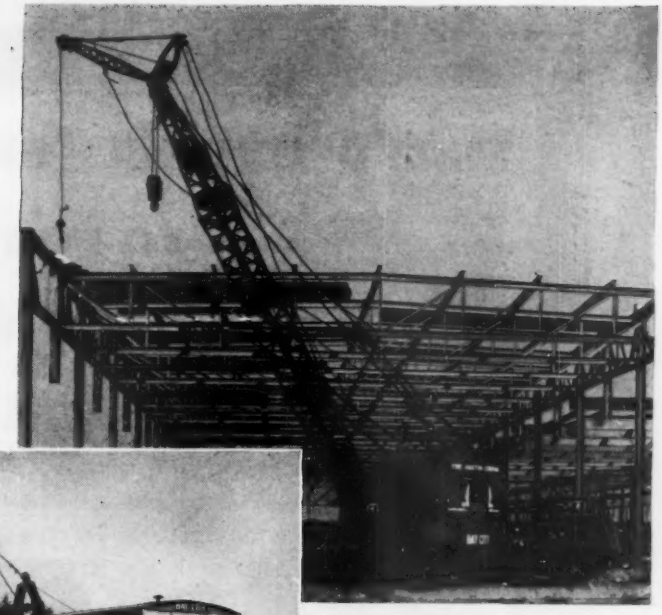
The effect of T-H has, perhaps, been most important as it bears on union factionalism. Formerly, a favorite tactic of minority bloc dissenters in a plant was to stage a wildcat walkout—or back it. The objects: to prove their militancy; to help irritated workers who felt their elected officials weren't pressing their grievances hard enough. Now, the disrupters get fired and can't count on support from union headquarters. The Reuther faction in control there doesn't need their votes. Also, the law gives Reuther a compelling reason to disassociate himself from illegal strike activity.

• **Still Some Trouble**—But the wildcats haven't disappeared—either in Detroit or in other centers.

General Electric has had a bad season in several plants. A series of sitdowns in its big Philadelphia works has kept affairs stirred up.

Briggs, Hudson, and Kaiser-Frazer had a nasty spring. At Briggs, a group of plant watchmen sought recognition for their new union and struck to get it. It appeared to be a very carefully engineered wildcat. At Kaiser-Frazer, on the other hand, a cluster of walkouts followed the disciplining of a union committeeman. Then as soon as another walkout participant was penalized, there would be a new walkout. In contrast to Briggs, these appeared genuinely spontaneous.

• **Remedies**—Management has found that different kinds of wildcats require different kinds of treatment. With some of the big fights for union control out of the way—or at least out of the constant contest stage—the possibility of getting organized labor's cooperation in licking the problem opens up new opportunities. An anarchic stage seems to be passing. At least on this particular aspect of the labor front, there are indications of progress to report.



(Above) Bay City's current Model 180-T66 CraneMobile, Twin-Disc equipped, works for the Austin Company on a plant construction job near Kalamazoo, Mich.

(Left) This one-man excavator, built around 1923, is similar to the first Bay City machine equipped with a Twin Disc Clutch. Bay City Shovels, Inc., since has used Twin Disc Clutches exclusively on excavating and material-handling equipment.

Judge Twin Disc
by the companies it keeps

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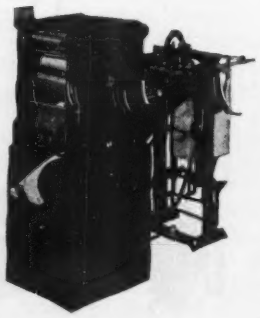

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Draft Will Hit Employers Lightly

Don't worry too much about the effect of the new draft law on your employees. You may lose a stock room clerk or a delivery boy. But that's about all.

• **Only 0.5%**—Selective Service estimates, tentatively, that only about 660,000 young men will be eligible, out of which the Army expects to take 225,000 to 250,000 by July 1, 1949. The number of employable males next October—when inductions will probably start—will be around 45-million. (That means males over 14, working or looking for work.) So if you have a normal distribution of employees, by age, you should lose about 0.5% of them to the draft board.

While the new law affects only men in the 19-through-25 age group, strong pressure is also being put on 18-year-olds to volunteer. Selective Service believes only a few thousand will be called in the 22-through-25 group. And, of course, nearly all veterans are exempt.

• **Executive Order**—The basis for deferments hasn't been decided yet. The new law leaves that up to the President, and his executive order on the subject probably won't be out for several weeks. That's why Selective Service's estimate of 660,000 is subject to change.

It's expected the President will defer young men who are married or who have dependents. Those whose work in industry and agriculture, medical, engineering, or scientific study that is considered essential will be deferred. The President's order will prescribe the standards for doing this. But there will be no blanket deferments; each case will be decided on its individual merits. And the Army expects that 50% or more of those who are eligible won't meet its physical standards.

One effect of the new draft will be to make jobs likely to be deferable more attractive to young workers. Wartime experience showed that "draft-exempt" occupations had an edge in the labor market—despite the fact that they may have offered lower pay rates.

The Pictures—Acme—72, 102; Douglas' Encyclopedia—76 (center left); Frank Leslie's Illustrated Newspaper—76 (bot. left); Harper's Weekly—76 (top left); Kosti Ruohomaa-Science Illustrated—77 (right); McGraw-Hill World News—112; Dick Wolters-Science Illustrated—77 (left); Wide World—44 (bot.).

INTERNATIONAL OUTLOOK

A joint Brazil-U. S. commission will soon be studying Brazil's economic needs.

Slated to head the U. S. side (and be co-chairman of the commission) is John Abbink, McGraw-Hill International Corp. chairman. Abbink's opposite number for Brazil may be J. Daudt Olivera, Brazilian business leader.

Officially the commission's job is to report on Brazil's resources and capacity for economic development.

Actually, the job boils down to studying ways to:

(1) Develop Brazil's oil resources. The country is now paying $300,000 a day for its oil imports, though it has vast reserves. U. S. oil companies would gladly move in if Brazil drops a law which keeps distribution in local hands.

(2) Build up transport to tap the country's other resources. These include iron ore. U. S. money would go into iron, too, if it got a green light.

(3) Expand power output. Brazil has little coal, must rely on hydro power or oil.

(4) Open up potential wheat-growing areas such as the San Francisco Valley. Today Brazil is one of the world's major wheat importers. It could be self-sufficient if it had irrigation.

(5) Push a health program.

Things are topsy-turvy in Europe this week. Here are some signs:

Moscow has the heat on Tito. An economic blockade of Yugoslavia has started; more Russian troops have been moved into Hungary as a threat. But Russian officials plan to sit down with the Yugoslavs later this month at the Belgrade conference on Danube navigation (BW-Jun.19'48,p115).

France's Communists have a new fanatical leader, Andre Marty (he replaces Thorez); also a new aggressive policy. But it's the anti-Communist workers that threaten a national civil service strike (over wages).

Italy's Communist leader, Palmiro Togliatti, was hit by an assassin's bullets. As a result the country is threatened with a general strike. But there's no way of knowing now whether a rightist or a Communist did it.

•

Britain's National Coal Board has called in U. S. engineers to look over its mechanization program.

Ray Jenkins of Joy Manufacturing Co. and Clarence Fredell of E. J. Longyear Co. are there already. The Coal Board wants engineers from Paul Weir Co. to take a look, also.

It's obvious the Coal Board needs some help. Wages and mechanization are costing it plenty. And output this summer is lagging some.

•

The Economic Cooperation Administration is making two big changes in its operations:

(1) ECA is going into the loan business. During ECA's first quarter (April 1-June 30) Marshall Plan countries got a total of $763-million in grants. But they shied off loans. (ECA had budgeted $288-million for this purpose.) Now Paul Hoffman plans to place $750-million in loans over the next few months. These will be made via the Export-Import Bank.

(2) ECA will step up its off-shore purchases in Europe. Thus: Suppose France is due to get $200-million during the current quarter; then, say $50-million of this will be earmarked for purchases in other Marshall Plan countries. These purchases might be Belgian steel, Turkish tobacco, British coal. France will get commodities it needs, and the supplying countries will get dol-

lars. The idea is to make ECA's money work twice: once in financing exchange of goods within Europe; later in financing non-ECA purchases from the U. S.

•

Off-shore purchases alone won't cure the breakdown of payments and trade in Europe.

The Organization for European Economic Cooperation is working on other means to spur intra-European trade. One suggestion is to pool the local currencies that are deposited in each country against ECA grants.

Advantage of the pool: A country that is short of another's money could draw it from the pool.

W. Averell Harriman's Paris staff is sitting in on the talks. Paul Hoffman will soon go to Paris to take a hand in the work. Camille Gutt, managing director of the International Monetary Fund, will also give advice.

•

ECA's exchange guarantee for U. S. investments in Europe is pulling a lot of customers.

The problem now is whether the $300-million blanket will cover all the applicants (BW-Jun.19'48,p117). One U. S. company wants to use the guarantee for investments that total at least $100-million.

•

The Office of International Trade is cracking down on export racketeers.

Starting in August, OIT will go after expediters and agents who:

(1) Attempt to bribe OIT or customs officials.

(2) Claim they have a drag with OIT.

(3) Charge fees wholly contingent on the granting of an export license.

(4) Intentionally violate export controls; this includes false statements that result in illegal shipments.

The policing job will be done by a greatly expanded staff working out of New York and Washington. The penalties: Exclusion from the export business; fines up to $10,000; jail sentences up to two years.

U. S. exporters are backing OIT's crackdown.

•

China is in for still worse trouble—a rice famine.

Shanghai will feel the effects by August—if stocks don't reach the city from Rangoon (Burma) and Bangkok (Thailand).

There's a run on Shanghai's rice shops now. And rice merchants have begun to hoard. This could mean food riots before long.

The long-run outlook is just as serious. Rice lands in many parts of Nationalist China are being abandoned by the farmers. The reasons seem to be: (1) Oppressive taxes; (2) forcing farmers to transport the grain, thus taking them off their land.

Facilities for handling and storing rice are breaking down, too.

•

Turkish State Airways plans to build a Middle East-Balkan air network. It will be based on new airports at Ankara, Istanbul, and Adana. The hookup includes Greece, Yugoslavia, Bulgaria, Hungary, Italy, Syria, Egypt, Iraq, Iran.

The Turkish parliament has already approved $176-million for the five-year project.

Westinghouse International Electric Corp. and J. G. White Engineering Corp. started last fall to modernize Turkey's airports (BW-Nov.22'47,p121). J. G. White will act as technical advisor for the whole program.

Contents copyrighted under the general copyright on the July 17, 1948, issue—Business Week, 330 W. 42nd St., New York, N. Y.

BUSINESS ABROAD

The Problem of Germany Today: "As I See It"

The following cable on six key aspects of the German situation has been received from James H. McGraw, Jr., president of McGraw-Hill Publishing Co., who is now on a tour of observation in Europe:

BERLIN—Here is the German situation as I see it:

I. Berlin Crisis

General Clay is sitting right on top of the smoldering Berlin volcano. His fine record in handling very difficult military and civil problems is now meeting the supreme test. He is matching his will, and his wits, against the Soviets in a stubborn defense of the U. S. right to be in Berlin. He feels a U. S. retreat will result in the Russians overrunning western Europe. He feels it is vital to our prestige and influence with foreign nations to make a stand here. Yielding to Russian pressure would have disastrous political consequences:

(1) We would be selling out the Germans. A retreat would actually jeopardize thousands of German lives in Berlin because the Soviets would be certain to take revenge against those who have associated with the western powers or who have been active in anti-Communist political parties and trade unions. The Germans have shown unusual confidence in our pledge to stay in Berlin; in fact, anti-Communist political groups have shown startling courage during the crisis by openly demonstrating against the Soviet position.

(2) We would notify the world that we are willing to compromise with Communism. More important, western European nations would lose all hope that the U. S. can be counted on for military support against Communism.

(3) We would signify our willingness to accept the splitup of Germany as inevitable, whereas our staying indicates a refusal to accept partition. As long as we are in Berlin, this city provides the best testing ground of Soviet intentions and strength that exists anywhere in the world today. As long as we remain in Berlin, we will be sparring with our opponent until we get a decision. If we turn our backs, the chances are good that we will get walloped from behind at a moment when we are not prepared. Retreat from Berlin means pulling the prop from under our entire foreign policy.

There now seems some justification for the contention that we bungled in not calling the Soviet's bluff during the April crisis by forcing our trains through to Berlin at gun point. Lack of strong policy in Washington was undoubtedly the reason why this was not done. That weak policy continues today. Clay does not know even now how far President Truman and Secretary of State Marshall will back him up.

James H. McGraw, Jr.

II. West Germany as a Power

Germany's rubbled cities are apt to delude a casual observer into minimizing the chances of Germany's quickly becoming once again an important factor in European power politics and even a military threat. The fact is that Germany—or western Germany alone, if Moscow maintains the partition—has a real opportunity of resuming its place as an important factor in European power politics. It can also become a military threat in the foreseeable future. It would be dangerous for us to base our foreign policy on any other assumptions.

The vitality and skill of the Germans is the highest in all Europe despite the serious effects of the war. Germany's productive capacity, which despite war damage and reparations, is still considerable, will enable it to respond more quickly than some of the other European nations to ECA's pump priming.

Germany will be burdened by a large reconstruction bill. But, it will not be carrying the burden of armaments and debts. What does this mean in terms of future German political alignments?

One school of thought holds that a strong western Germany may serve as a magnet which eventually will draw a dissatisfied eastern Germany out from under Soviet domination. That Germany could thus be unified seems, in light of present developments, as somewhat wishful thinking.

Others insist a strong western Germany—even a rearmed Germany—could be integrated industrially, and perhaps militarily, into a western entente against Communism.

German history suggests a third grave possibility. It is this: Western Germany, once on its feet economically and with nothing further to gain from the West, will turn its attention toward achieving total German unification. This means seeking something which only the Soviets will be able to provide. But the Soviets will provide unity only at a price. The price will be an alliance. The danger of future Soviet-German collaboration is real. It need not stem from western Germany going Communist; it is more likely to stem from a strong German nationalist movement, to whose leaders no price would be too high for unification of the Fatherland.

III. Allied Differences

Fear of Germany, rearmed and economically strong, is real to Frenchmen, Englishmen and many others in Europe. A strong Germany produces a problem for the U. S. too. We want Germany strong, but not too strong. How should we achieve this aim?

The U. S. should take advantage of its position as chief financial backer (about 95% of the cost) of western Germany's recovery to control policy. This would put us in a position to overrule both Britain and France whenever their actions tend to impede recovery in western Germany.

The British fit this bill on two counts: (1) British occupation authorities are actively promoting the Labor government's nationalization policy although giving lip service to an agreement with the U. S. that the matter is one for eventual German self-determination; (2) they are concerned over coming German competition and are allowing this consideration to affect their handling of German industry.

The French are obstructionists from two angles: (1) fear of a strong Germany; (2) fear of competition. The French fixation on the security issue, however, is excusable to a point. The French are in a better position than

any other nation to appreciate Germany's recuperative powers and to sense political trends which may again lead to the Germans' becoming a menace to Europe. France is also concerned that a Communist-dominated Germany or a Russian-dominated Germany is an even worse threat to European peace.

IV. Industrial Organization

The present industrial setup in Germany is extremely weak, both in the American and British zones. Clay inherited a poor industrial setup and has found it most difficult to get adequate support from Washington and from U. S. industrial leaders. This is responsible in part at least for the fact that the present organization setup of German industry is wrong.

Clay is surrounded by a group of inadequate advisers lacking practical experience in real industrial production. Instead, he should have delegated responsibility for industry to a top tough industrialist capable of carrying fully the industrial job. This top industrialist in turn would have picked strong men to head the various divisions of industry.

In other words, what German industry needs is a strong industrial setup like our own War Production Board plan. The reason this has not been done is in part due to the lack of support which has forced Clay to get along with inferior personnel and in part is due to Clay's dominant personality which makes it difficult for him to delegate authority and responsibility easily.

Another factor to be considered is that the role being played by the occupying powers has lasted much longer than was envisioned. If the Soviets had cooperated we might have had by now a German government, and responsibility for German production would now have been largely in German hands.

The creation of a new West German state is currently in the offing. The assembly to draw up a constitution is scheduled to convene September 1. The constitution could be approved and a government set up in nine months if all goes well. The trouble is it is now too late to change drastically the present organization. A new organization will not have sufficient time to do much real good before the new German government takes charge.

German industry, as Herbert Hoover has pointed out, should be subject for perhaps 25 to 50 years to an effective form of supervision and control for security reasons.

Perhaps the only part of western Germany's economy which needs detailed control indefinitely is foreign trade. This is because the mark will have no convertibility for some time to come and because a watchdog is needed as long as the U. S. taxpayer is subsidizing the economy through Army-appropriated funds and ECA.

One organizational problem which requires immediate attention is Ruhr steel. The U. S. has permitted the British to run this show with what may prove to be disastrous results. We should have a steel setup at least as good as that created for the Ruhr coal industry.

The Ruhr steel industry faces a ruinous position unless the U. S. steps in and nullifies what the British have done under a program known as "Operation Severance" (BW—Jun.19'48,p120). Ostensibly a decartelization scheme, "Operation Severance" really is a British attempt to pave the way for public ownership in Germany. In addition, and equally important, it cripples a potential British competitor. Decartelization proper was intended to break up monopoly patterns which prevent free competitive enterprise through price fixing, allocation of markets, and other restraints of trade such as limitation of production.

But the British emphasis has been solely on systematically destroying integration in the steel industry by segregating steel producing units from their normal adjuncts, i.e. coal mines, cokeries, and certain semifinishing facilities. About 80% of the Ruhr steel-producing industry has been segregated and placed under interim corporate devices called "reception companies" pending determination of future ownership. The U. S. can interpret "Operation Severance" only as a British move toward future nationalization, for, as the British themselves have admitted, the German combines would have to be broken up into their component basic industries, i.e. coal, steel, and perhaps chemicals—before German industry could be organized for public ownership as in Britain.

V. Currency Reform

The effects of currency reform in western Germany even in the first week following its promulgation, were astounding: (1) in terms of the amount of goods smoked out of hoarding; and (2) the noticeable increase in willingness to work, which was reflected in increased production and decreased absenteeism in basic industries like coal and steel (BW—Jul.3'48,p73).

The Russians were caught napping by our currency move.

Reliable sources have verified that a Soviet currency was actually printed several months ago. However, when the western Deutsche Mark was issued, the Soviets adopted "emergency" stickers to affix to the old Reichsmarks, an action designed to support their propaganda line that the Western reform was a stab in the back. Counterfeit stickers were circulating in Berlin's notorious black market within 24 hours after the Communists issued the sticker.

The circulation of two currencies in Berlin, though obviously undesirable, could still be managed if the Soviets would cooperate. The western powers were agreeable to the two currencies being interchangeable in payment for food, rent, transportation, and other living necessities. The Soviets, however, seized upon the currency issue as an excuse for the present all-out attempt to make the western power's position untenable. The Soviets used currency reform to precipitate the final showdown in Berlin.

Western Germany definitely is making economic headway. This was in evidence even before the currency reform in June. Exports are now running at the rate of $600-million per year, compared to $150-million at this time in 1947.

It has been estimated that the Bizonal area of western Germany alone will need to export at the annual rate of between $1.8- and $2-billion to pay for imports necessary for a reasonable standard of living. This means western Germany must regain its trade with eastern European countries as envisioned in ERP planning, as well as expand its other world markets. The $2-billion figure could be achieved within 2 years if all goes well. Western Germany, of course, will be forced to use the lion's share of its receipts from exports for food imports as long as it is cut off from agricultural lands held by the Soviet.

VI. Dollar Dilemma

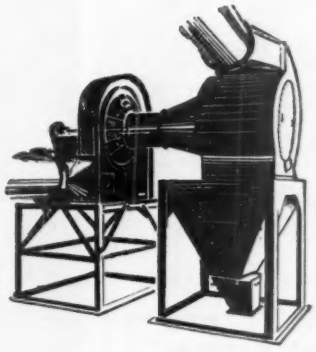
The mark has no standing on the world market and, therefore, western Germany's trade is tied to the dollar. The one exception is a small amount of sterling purchasing power authorized to balance off a percentage of the imports from the sterling area.

Dollars come from three principal sources: (1) Army-appropriated funds for food, fertilizer, medical supplies, etc.—supplies deemed necessary to "prevent disease and unrest" in occupied territories; (2) dollar proceeds from exports; (3) ECA.

The U. S. taxpayer is not now being repaid for help extended to Germany despite the fact that exports are being sold for dollars. Instead the dollar proceeds of exports are being expended on pump-priming imports.

Some U. S. officials feel that dollar trading restrictions have unnecessarily hindered trade between western Germany and its natural trading partners. The question has arisen whether dollar trading procedures have acted as an unjustifiable trade barrier. The answer being given is that Bizonia's bilateral trade agreements with neighboring European countries are now in process of renegotiation with a view to liberalizing dollar clearing arrangements.

ROTO-CLONE turns a complaint into a compliment



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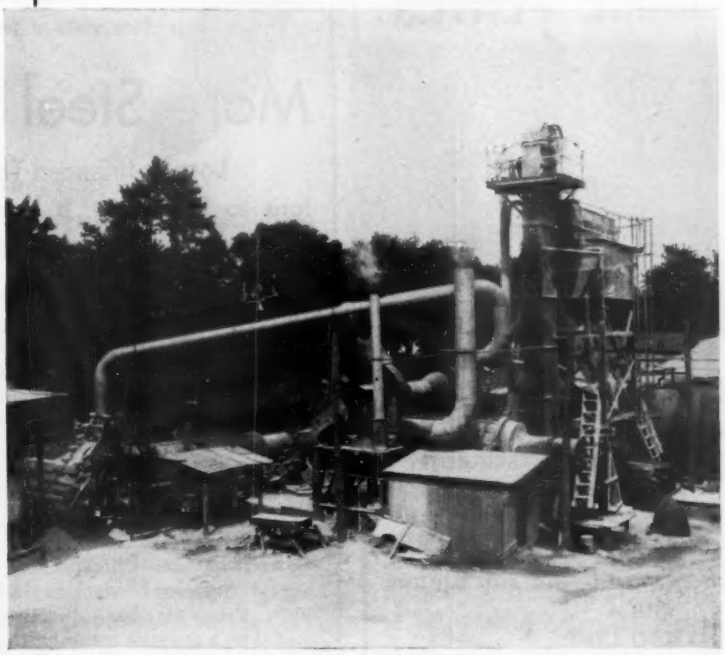

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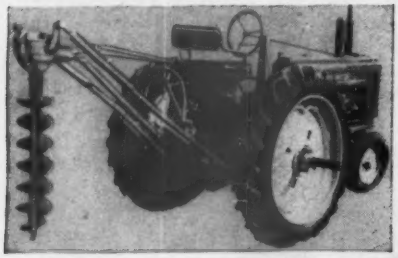

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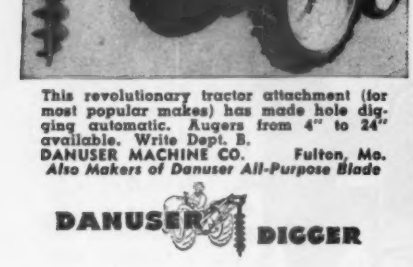

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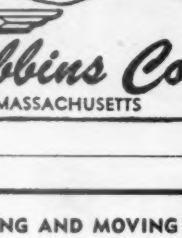

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The huge Tata works at Jamshedpur will be a big factor in producing . . .

More Steel for India's Industry

Locally-financed Tata Iron & Steel Co. plans to add 600,000 tons to its output. It has also diversified into finished products, including locomotives, tools, farm and railroad equipment.

JAMSHEDPUR—The Tata Iron & Steel Co. (Tisco) has already achieved distinction on several counts: It has given the British Commonwealth one of its largest metalworking industries, India one of its most important industrial communities. And it's done this without help from foreign capital.

Now it is about to assume a larger and more vital role than ever in India's industrial development.

• **Diversification**—Primarily, Tisco is the biggest supplier of steel in India. But lately the Tata name has begun to appear on a growing list of finished products—wheels for railroad cars, locomotive boilers, picks, shovels. And it has just started work on a $22-million plant for the Tata Locomotive & Engineering Co. which will turn out 100 locomotives and 100 spare boilers annually.

Furthermore, other industries in Jamshedpur, while not owned by Tata, are completely dependent on Tisco steel. These plants turn out among other things, tinplate, steel wire, rolls for paper, sugar and flour mills, clocks, metal telegraph poles, screws.

• **Jungle to Ingots**—It all started 40 years ago when Jamshedpur was just a jungle. The site was chosen because iron mines were handy. Under supervision of a Swedish engineer, the ground was cleared and Tata's first steel mill was built.

Today Tisco's monthly output is running about 80,000 long tons of pig iron, 75,000 long tons of steel ingots, and 60,000 long tons of finished steel. Importance of the works is underlined by the fact that steel from all sources in India only totaled 960,000 tons last year.

But the country's minimum yearly demands are estimated at 2-million long tons. Therefore, to help narrow this gap Tisco wants to borrow $60-million from the Indian government to increase its capacity by 600,000 tons (BW—Jun.19 '48,p116).

• **Expansion**—Tata branched out from the role of steel supplier in 1939 when work was begun on the $3-million Tata Wheel, Tire & Axle plant. Production started in 1941; the target was to supply all India's railway needs—35,000 long tons a year.

The plant was designed to produce 10,000 long tons annually. In 1947, a $750,000 expansion program was completed, and the plant's capacity was doubled. Further expansion is now under way, but the new equipment—mostly bought in the United States—won't be completely in place and in operating form until mid-1949.

The plant was started and run by Indian nationals alone. And the Indians seem to have handled the job well. Example: Lost time accidents have aver-

aged only five or six annually since the plant started operations.

• **Telco**—The Tata Locomotive & Engineering Co. Ltd. (Telco) represents the second major sortie beyond the field of steel manufacture. Telco is located just a few miles away from Tata's big steel mills. The new locomotive plant now going up will be producing by 1952.

When Telco gets going full blast, it will supply half of India's yearly locomotive needs. The rest will come from a $39-million government-owned plant, that will soon be under way in Bengal province. This, too, means more business for Tata: Tisco has just got the order for the first shipment of structural steel for the plant.

• **Other Products**—Another Tata branch at Jamshedpur—the Agrico Dept. of Tisco—is turning out picks, shovels, and mattocks for India's farmers. Last year this plant turned out more than 2-million units; it would have done better if strikes at the steel works hadn't kept production down.

Most of India's supply of tinplate is made at Jamshedpur and Tata has a hand in it. The producer is the Indian Tinplate Co., Ltd., owned by the Burma Oil Co., Ltd., with Tata holding a minority interest. Tisco must supply the tinplate company with 60,000 tons of steel a year; the Burma Oil Co. has a contract with Tisco whereby it can take the whole output if it wants. The tin has to be imported—mostly from smelters in Singapore and Penang, British Malaya.

• **Customers**—Here are some of the other big factories at Jamshedpur that depend on Tata steel for their production:

Indian Steel & Wire Products, Ltd. This plant has a capacity of 43,000 tons of annealed wire, 7,000 tons of galvanized wire, 6,000 tons of barbed wire, and 1,000 tons of bolts.

Engineering & Machine Manufacturing Co., Ltd. It supplies all India's needs for sugar and flour mills, also rolls for the paper, ferrous, and nonferrous industries.

Indian Clock Manufacturing Co., Ltd. Among other things this plant turns out all sorts of time pieces, phonograph needles, paper clips.

Orient Industrial Engineering Co., Ltd. Big item here is metal telegraph poles. An expansion program now under way aims at the manufacture of buckets, drums, screws.

To India's people the most amazing thing about Jamshedpur is the fact that it is a planned city. The streets are wide and straight. Housing developments for the workers (built by Tata) are spacious and modern. There is room for everyone—which is a remarkable situation in India, even more remarkable than iron and steel.

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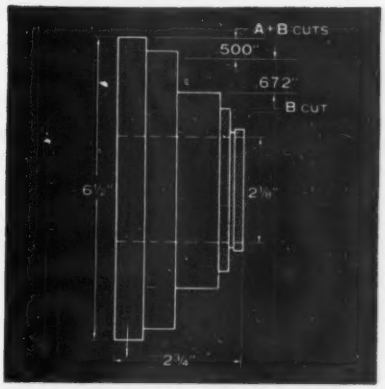

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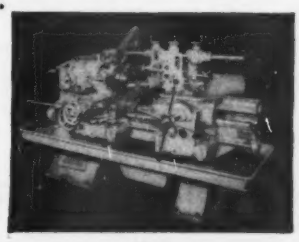

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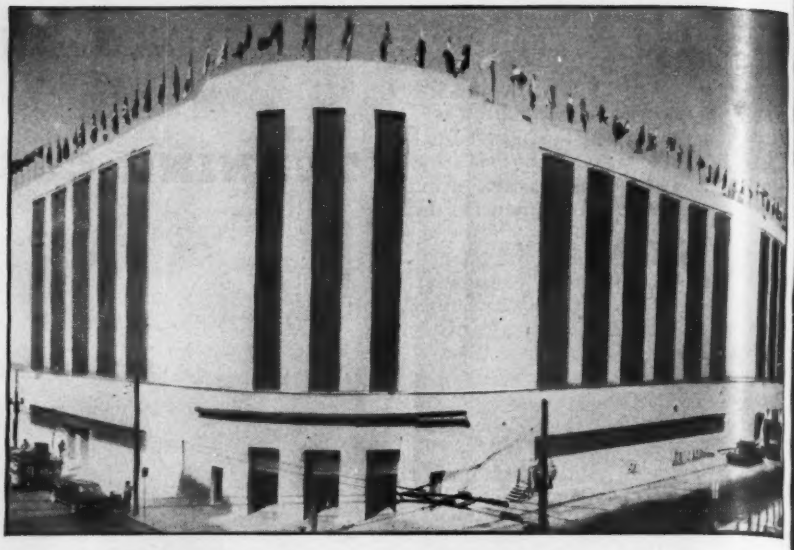

New Orleans' International Trade Mart . . .

. . . Offers a Showcase for World Traders

New Orleans' well-publicized drive to make itself a leading world port spurted forward last week: The $1.3-million International Trade Mart formally opened its doors for business.

• **Trade Booster**—The idea behind the modern, five-story building is to boost trade between mid-continent U. S. and the rest of the world—especially Latin America—through the Port of New Orleans (BW—Jun.28'47,p38). It features displays of almost everything available in the way of goods manufactured in the U. S., and there will also be a wide cross-section of foreign merchandise.

The trade mart is an offshoot of the New Orleans International House, which has already launched vigorous import and export drives to boost the tonnage cleared through the port (BW—Jan.10'48'p101; Mar.13'48,p54). Like it, the mart will operate on a nonprofit basis. Head of the mart is Theodore Brent, president of Mississippi Shipping Co. (Delta Line).

• **Displays**—Companies from 34 states and 10 foreign countries have already signed up for space in the mart. Louisiana firms alone have 57 displays; Illinois, 53; New York, 52. Foreign countries include Belgium, England, Germany, Philippines, China, Siam, Indo-China, France, Holland, and Norway.

On display are items ranging from boring machines to hand-painted neckties. The mart's backers figure that, all told, there will be 400 to 500 lines of merchandise on display.

Most goods can be purchased on the spot. If not, buyers have only to step across the street to International House. There they can arrange all buying and shipping details, take care of consular invoices and other documents.

Tire Teamwork

South Africa will have a new tire plant thanks to a combination of U. S. knowledge and British materials.

PORT ELIZABETH—U. S. technical knowledge has teamed up with British materials to give South Africa a new tire and inner tube plant.

• **Partnership**—General Tire & Rubber Co., Ltd., now has its first factory well on the way and expects to get into production around the first of next year. The U. S. partner in the South African firm is General Tire & Rubber Co. of Akron, Ohio, which owns a minority interest. The majority owner is the firm of Williams, Hunt & Co., Ltd., automobile importer and distributor for General Motors in South Africa.

The framework for the Port Elizabeth plant was made in Britain to specifications supplied by Akron. Building materials are almost nonexistent in South Africa; the new company has had to import almost everything. This includes reinforcing and structural steel, corrugated and flat iron, iron and copper piping, and all electrical accessories. A few items—such as metal roofing—have been bought in the U. S.; the rest, in Britain.

• **Training**—General Tire & Rubber will send out technicians to train South Africans in the ins and outs of tire making. Other Akron personnel will train South Africans in distributing and merchandising. As quickly as possible the plant will be turned over to a completely local management.

This is not an unusual venture for the U. S. company: It also has minority interests in plants in Mexico, Venezuela, Chile, and Argentina.

Canada Preens Itself For Record Tourist Boom

TORONTO—Canada expects to play host to more U. S. tourists this year than ever before. That's the way it figures on the basis of border crossings through the July 4 week end.

The provincial government of Ontario spearheads Canada's drive to lure in a record stream of tourists—and tourist dollars. It has set up a dozen information booths at strategic crossings along its border from Buffalo to Minnesota, adorned them with fetching girl attendants. At these booths the tourist can find out where to go and how to get there, and even make reservations free of charge.

All told, Canada garnered $245-million from its tourists last year.

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THE TREND

The End of Basing-Point Pricing?

Many important management decisions will have to be made because of the shift from basing-point pricing to f.o.b. mill pricing in the steel industry, for it is the biggest industrial marketing development of the twentieth century. Such a titanic move can redraw the industrial geography of America; it can create or bolster monopoly; it can force companies into losses or even bankruptcy.

We say "can" because it is still not clear whether the shift is going to be a permanent one. A switch back to basing-point pricing, at least for steel, is a possibility that later may become a reality.

For that reason, this fundamental shift in commercial practice needs to be looked at two ways: (1) on the assumption that the change is permanent; and (2) on the assumption that the change is temporary. It is also advisable for managers of any business affected by the steel marketing change to delay any important decisions until the situation becomes more clear.

A Permanent Change?

It has not made too much difference in the past if a steel fabricator were situated far from his source of steel supply. His steel cost was identical, whether he bought the metal in Pittsburgh or Chicago or Youngstown or Cleveland. All producers quoted him the same price.

That will no longer be true when all producers quote f.o.b. mill. For then the steel customer will have to take into account the varying amounts of freight to be added to the f.o.b. price. It will be cheapest to buy from supply sources nearest the customer; it will be most expensive to buy from the most distant source. That will be the situation exactly, provided the mills are all quoting the same price f.o.b. mill.

But there is a very real possibility that all mills will not quote the same price for all products. The smart steel buyer will have to sharpen his pencil and figure out the exact cost of steel delivered to him by all possible suppliers; at least, he will have to find out from the steel salesmen what the new delivered prices will be to him.

If the customer uses a considerable amount of steel in his product, he will also have to consider his competitive position. If he isn't located at least as advantageously in relation to mill sources as his competitors, he will have to decide how to offset that disadvantage. He might, of course, be able to cut costs elsewhere to keep in the running. If not, he may have to consider moving his plant, or some operation of his plant, closer to the mill. He will also have to investigate other possibilities: lessening the amount of steel in his product, or substituting some other material for steel.

Buyers will also have to test the market to see if the list prices are firm. Those who use big tonnages—such as the automakers—know that in the past they have been able to force price concessions. A steel mill may have to sell below list to keep output at or above the mill's break-even point or to keep its old customers.

American businessmen have demonstrated their ingenuity at meeting new and difficult problems many times before. They doubtless will find ways and means to lick the problem of buying steel f.o.b. mill.

A Temporary Change?

If the steel companies had waited while the normal processes of contesting a government action ran their course, the f.o.b. problem would not yet be here.

The Federal Trade Commission did not issue its complaint against the steel industry until August, 1947. Hearings before the commission have been under way for some time; they probably have a much longer time still to run. On the basis of testimony at the hearings, FTC would probably issue a cease-and-desist order. That order would then be subject to court test. It is conceivable that the final decision compelling the industry to discard the multiple-basing-point pricing system would not come until 1950 or 1951, or even later.

But the steel companies, particularly, United States Steel Corp., studied the recent Supreme Court decision in the cement basing-point case very carefully. They came to the conclusion that the ruling on steel would not differ from the ruling on cement. Therefore, the determination to fight against the probable order to change pricing systems disappeared. In any case, the steel industry is now putting the pricing change on trial.

Steelmen are well aware of the fact that FTC and the Supreme Court can be stopped in their tracks by one thing: an act of Congress legalizing the basing-point pricing method. They are also aware of the fact that, if they went to Congress seeking such legislation, it might not be an easy thing to get.

So, they are giving up their turn at bat to see what kind of hit their customers can make. If the customers find that the f.o.b. pricing method means disastrous experiences for them, they will be the ones to tell Congress about their troubles.

Persuasive arguments by steel users that the basing-point method is fairer to all may well convince Congress to legalize it. That would definitely make the current shift a temporary one. And, until the problem is threshed out in Congress—next year probably—businessmen will be on safe ground in postponing major decisions that depend on it.